"A STUDY TO ASSESS THE EFFECTIVENESS OF KEGEL EXERCISE AND PRONE POSITION ON AFTERPAINS AND INVOLUTION OF UTERUS AMONG POST NATAL MOTHERS AT THE INSTITUTE OF OBSTETRICS AND GYNAECOLOGY, GOVERNMENT HOSPITAL FOR WOMEN AND CHILDREN, EGMORE, CHENNAI-08."

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CERTIFICATE

This is to certify that this dissertation titled **"A study to assess the effectiveness of kegel exercise and prone position on afterpains and involution of uterus among post natal mothers at the institute of obstetrics and Gynecology, Government hospital for women and children, Egmore, Chennai-08"**, Is a bonafdie work done by **Mrs. Kurusamy Appammal, , M.Sc(N) II year,** College of Nursing, Madras Medical College, Chennai-03, submitted to **The Tamil Nadu Dr. M.G.R. Medical University, Chennai,** in partial fulfillment of the university rules and regulations towards the award of the degree of **Master of Science in Nursing. Branch – III Obstetrics And Gynaecological Nursing**, under our guidance and supervision during academic period from 2012-2014.

DR.MS .R .LAKSHMI,M.Sc (N), Ph.D.,
Principal,
College of Nursing,
Madras Medical College,
Chennai-03.

DR.R.JEYARAMAN,M.S,Mch,
Dean,
Madras Medical College
Rajiv Gandhi Govt. General Hospital
Chennai-03.

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-Jeremiah:17.7

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ABSTRACT

Childbirth is one of the most important events in a woman's life. The wonder of motherhood is the enjoyable journey that is felt only by the mother after giving birth of rebirth by giving birth to a child. During post natal period , mothers experience numerous physiological and psychological changes.Most of the post natal women had afterpains . So it was found important to reduce the afterpains and hastened the process of involution of uterus.This study was coducted to assess the effectiveness of prone kegel exercise and prone position on afterpains and involution of uterus among post natal mothers..Research design chosen for this study was Quasi experimental design , two group pre test and post test design. The conceptual frame work used for this study is a open system model based on general system model approach developed by Ludwig Von Bertanlanffy (1968) and modified by J. W.Kenny. The tool used for the study includes questionnaire to assess the level of afterpains pain by numerical pain scale and involution of uterus assessed by measuring the fundal height. In control group-level of afterpains and involution of uterus will be assessed every day morning and evening for 3days through numerical pain rating scale and clinical proforma and also routine care provided. The obtained data was analysed by descriptive and inferential statistics using chi-square and students independent t test. The study revealed that kegel exercise and prone position have significant reduction of afterpains as t` test value = 15.12 significant at p= 0.00 level and improvement of involution of uterus as t` value= 9.54 significant at p= 0.001 level.

CHAPTER – I
INTRODUCTION

" God could not be everywhere and therefore he made mothers"

Childbirth is one of the most important events in a woman's life. The wonder of motherhood is the enjoyable journey that is felt only by the mother after giving birth of rebirth by giving birth to a child. A mother, even though she is born earlier in this world, perceives an experience. It brings about remarkable changes in her normal life and introduces an exposure to a new role within her.

Childbirth includes different stages, and in every stage, the mother plays a unique role in experiencing the important events that occur throughout her journey. The different stages are broadly classified into three main aspects, namely, antenatal period, intranatal period, and postnatal period.[2] postnatal period is the most vulnerable period for the mother and the newborn baby. Many mothers experience physiological, psychological and social changes during this period. There are many types of postnatal ailments experienced by the mother such as afterpains, irregular vaginal bleeding, leucorrhoea, cervical ectopy (erosion), backache, retroversion of the uterus, anaemia, breast problems and episiotomy discomforts.

The first 6 weeks after the birth of the baby is known as postpartum period or puerperium. During this time, mothers experience numerous physiological and psychological changes. Main changes occur for uterus is involution of the uterus and descent of the fundus. Involution begins immediately after the delivery of the placenta. During involution uterine muscles contracts firmly around the maternal blood vessels at the area where the placenta is attached. This contraction controls bleeding from the area when the placenta is separated.

There are many reasons for the sub involution of the uterus. Sometimes it can be associated with certain factors such as inadequate breast feeding, lack of maternal care during pregnancy and puerperium. Other complications of puerperium include early postpartum haemorrhage, hypovolemic shock, thromboembolism, puerperal infections. Certain complications may be fatal and would be recognized early and dealt with prompt care. Maternal mortality and morbidity rates measures the risk of women dying from puerperal causes.

Eventually, after the birth of the baby placenta separates from the wall of uterus and expelled. Immediately the uterus contracts tightly to seal off open blood vessels on uterine wall at placental site. These uterine contractions called after pains. Afterpains refers to the infrequent, spasmodic pain felt in the lower abdomen after delivery for a variable period of 2-4 days. These abdominal cramps are caused by postpartum contractions of the uterus as it shrinks back to its pre-pregnancy size and location. Presence of blood clots or bits of the afterbirth leads to hypertonic contractions of the uterus in an attempt to expel them. The uterus loses muscle tone during subsequent pregnancies due to its contraction-relaxation cycle and causes afterpains, and is vigorous pain in multiparous woman.

Uterine muscle tone decreases with increase in number of pregnancies and this may leads to more severe cramping. Breast feeding the baby stimulates the production of the hormone oxytocin by the pituitary gland. Oxytocin triggers the let-down reflex that releases milk from the breasts and also causes the uterus to contract even more. This effect creates additional abdominal discomfort. Cramping will be most intense during 1st day after the delivery and should tapper off on 3rd day. Afterpains will be relieved if the womb remains firmly contracted. When the bladder is full it is unable for the uterus to contract and it tends to relax, thus prohibiting relief from afterpains.

Labour is one of the major life-events, a woman will experience. Its memory will remain with her. Any negative impressions may give rise to psychological disturbance with her and the whole family. There are varieties of non pharmacological methods for pain relief which are important for postnatal period. They are massage, counter pressure, hydrotherapy, breathing patterns, heat and cold packs, position changes, relaxation techniques, music, aromatherapy, birth doulas and acupressure points. Among non pharmacological methods, position change, abdominal muscle exercise and uterine massage are more effective.

1.1 NEED FOR THE STUDY

The postnatal period is a time of maternal changes that are both retrogressive(involution of uterus and vagina) and progressive (production of milk for lactation, restoration of the normal menstrual cycle, and beginning of a parenting role).Protecting a women's health as these changes occur is important for preserving her future childbearing function and for ensuring that she is physically fit to incorporate her new child into her family. The physical care a woman receives during the postnatal period can influence her health for rest of her life. Most women experience some degree of discomfort during the postnatal period. Common causes of discomfort include pain from uterine contractions(afterpains), perineal lacerations, episiotomy, haemorrhoids, sore nipples, and breast engorgement.

Most women expect and experience afterpains after the labour process. Intensity of pain experienced, varies from one woman to another. Afterpains is managed in various ways according to the following indicators such as frequency, duration and intensity of uterine contractions, the women's emotional behaviour, her response to afterpains. Postnatal health problem needs close attention. It is estimated that approximately about 58% women experience tiredness, 23% perineal problems, 42% backache, 24% haemorrhoids, 13% bowel problems, 23% sexual problems, 20% vaginal

bleeding, 46% urinary incontinence, and 43.5% women experience after pains.

Association of afterpains with multiparity and breastfeeding is well known. However, women may experience afterpains regardless of their parity and breast feeding. Women themselves have described the pain equal to the severity of moderate labour pains. A survey on childbearing experiences showed that 71% of women finding difficulty while feeding the baby. The most common reason they gave was cramping pain during breast feeding. Cramping intensity may vary with parity, in which multipara mothers are more prone to get severe afterpains than primi mothers.

Afterpains are the abdominal cramps that are caused by postpartum contractions of the uterus as it shrinks back to its pre-pregnancy size and location. In short, afterpains signals the process of involution. Immediately after delivery, the uterus begins the process of involution or reduction in size. A woman can best help her abdominal wall to return to good tone by using proper body mechanics and posture, getting adequate rest and by performing exercises. Deep breathing exercises help to feel better physically and emotionally; alternate leg raising exercises, Kegel exercise and early ambulation will encourage uterine contractions, helps in restoring the muscle strength and conditions the abdominal muscles. Exercises to strengthen abdominal and pelvic muscles and finally hastens the process of involution.

During the investigator's clinical experience, it was found that a number of postnatal mothers experienced afterpains, which caused great discomfort, making it difficult to adapt to their new maternal role. If afterpains are extremely painful or they persist for over a week, it may be a good idea to nurse to explore possible complications which might be causing contractions, such as unexpelled tissue which the uterus is trying to get rid off, So the role of a nurse is to find out an effective way to alleviate pain and make the postnatal period of the mother indeed the happiest period of her

life. The happiness is screened by the pain of the uterine contractions (afterpains) and thus it motivated the investigator to undertake an experimental study to portray the effectiveness of Kegel exercise and prone position on reduction of afterpains and involution of uterus among postnatal mothers.

1.2. STATEMENT OF THE PROBLEM

A study to the assess the effectiveness of kegel exercise and prone position on after pains and involution of uterus among postnatal mothers at the Institute of Obstetrics and Gynaecology Government Hospital for Women and Children, Egmore Chennai-600 008.

1.3 OBJECTIVES

1. To assess the pre-test and post-test scores of afterpains and involution of uterus among postnatal mothers in experimental and control group.
2. To determine the effectiveness of Kegel exercise and prone position on afterpains and involution of uterus among postnatal mothers in experimental group
3. To compare the effectiveness of Kegel exercise and prone position on afterpains and involution of uterus among postnatal mothers in experimental and control group.
4. To find an association between pre-test level of afterpains and involution of uterus among postnatal mothers with their selected demographic variables

1.4. OPERATION DEFINATIONS

1. **Effectiveness**: Effectiveness refers to "producing the intended result" (Oxford Senior Learner's Dictionary). In this study effectiveness refers to the extent to which Kegel exercise and prone position have reduced the afterpains and hastened the process of involution of uterus among postnatal

mothers. It is measured by Numerical Pain Rating Scale and clinical proforma.

2. **Kegel Exercise**: Refers to repeatedly contracting and relaxing the pelvic floor muscles. It should be done for 3 days and 3 times a day. Postnatal mother should contract and relax the pelvic floor muscles for 10 seconds. Likewise 10 repetitions should be done each time.

3. **Prone Position**: Refers to positioning of postnatal mothers to lie on their abdomen with a supporting pillow with face turned aside and hands extended. It should be done for 3 days and 3 times a day, by lying in prone position for 3-5 minutes at 30 minutes interval. Likewise 3 repetitions should be done each time.

4. **Afterpains**: It is the infrequent, spasmodic pain felt in the lower abdomen after delivery for a period of 1-3 days due to the contraction of the uterus as it shrinks back to its pre-pregnancy size and location, and also helps in expelling the placental bits. It is measured by Numerical Pain Rating Scale.

5. **Involution of uterus:** It is the return of the uterus to a prepregnant state after delivery. It is measured with clinical proforma which consist of fundal height, consistency of uterus and lochia (odour, amount of bleeding and number of pads used).

6. **Postnatal mothers**: In this study it refers to women who had normal vaginal delivery within 1-3 days of their postnatal period.

1.5 ASSUMPTION

- Post natal Mothers will experience reduce in after-pains after practicing this Kegel exercise and adopt prone position
- The degree of after pains will vary from mother to mother

1.6 HYPOTHESES

(All hypotheses will be tested at 0.05 level of significance)

H_1: There will be significant difference between the mean pre-test and post-test scores of afterpains and involution of uterus among postnatal mothers in experimental group .

H_2: There will be significant association between the pre-test level of afterpains and involution of uterus with selected demographic variables of postnatal mothers.

CHAPTER II

REVIEW OF LITERATURE

Review of literature refers to an extensive and systematic examination of publications relevant to the research project. Review of literature is a key step of an research process. Nursing research is considered as continuing process in which knowledge gained from earlier studies is an integral part of research.

According to **Polit and Hungler** the review of literature is defined a broad comprehensive in depth systematic and critical review of scholarly publications, unscholarly published print materials, audiovisual materials and visual communications. An extensive review of literature relevant to the research topic was done to gain insight and to collect maximum information for laying the foundation of the study.

The review consists of two parts.

2.1 REVIEW OF RELATED STUDIES

Section A : Studies related to afterpains and involution of uterus among postnatal mothers

Section B : Studies related to effectiveness of kegel exercises and prone position on afterpains reduction and involution of uterus among postnatal mothers.

Section C : Studies related to nursing intervention of among postnatal mothers exercises and after pains

2.2 - Conceptual Frame work

2.1 RELATED REVIEW

Studies related to afterpains among postnatal mothers

Massimo F, Antonella C.(2009) A randomized control trial was conducted to compare the effectiveness of postnatal exercises with conventional therapy in the reduction of pain during puerperium. The study participants were 60 women with either an episiotomy or a perineal laceration after vaginal delivery were assigned randomly to receive the postnatal exercises(n=30) with conventional therapy(n=30).Women who received postnatal exercises had lower pain scores than those with conventional therapy(1.7 +2.4 v/s 3.9+2.4;p=0.0002).

Bernandes NO, Santos AM, Oliveira MR (2008) A study was conducted to describe the profile of postpartum women who attended physical therapy in a public maternity house in Betin to relieve postpartum pain. A total of 215, multiparous women participated in the study .Women (43%)had complaints of breast discomforts,(62.3%) presented normal diaphragm kinetics, (85.1%) tympanic sound at abdominal percussion normal uterine involution with moderate degree pain(VAS-6 to 7 at different intervals); (87.9%) presented pelvic floor muscle contraction and 30.3% lower limb oedema; abdominal muscle diastameters measured supra and infra umbilical 2+1 and 1+1 fingers respectively. The women were treated with diaphragm respiratory exercises, abdominal isometric exercises, pelvic floor muscle contractions, lower limb circulatory exercises, flatus elimination maneuvers, ambulation, and guiding.

Karpagavalli G, Judie A (2008) An evaluative study was conducted to find the effectiveness of nursing interventions in reducing after-pains among postnatal mothers in Chennai. Among the 60 postnatal mothers, 30 were in the experimental group and 30 in the control group. Data was collected using Visual Analogue Scale and Categorical Pain Scale.

Nursing interventions such as lying flat on abdomen, emptying the bladder, and oil massage were given to reduce the after-pains. Postnatal mothers showed a highly significant decrease in the level of after pain following nursing interventions (P<0.001), in comparison to the pre-assessment level of after-pains. The mean and standard deviation of level of. after pain after implementation of nursing interventions in the experimental group was 4.59 and 1.01

Declercq ER, Sakala C(2005) A descriptive study was conducted to determine women's experience of afterpains in United States. The sample of 300 postnatal women were selected by stratified sampling method. The study results revealed that afterbirth pain is one of the most common obstetrical problems in most of the women. Among them young adult women ages from 17 to 24 years are most likely to report less pain. Between 50% and 80% of the women reported some level of discomfort associated with afterpains and 10% to 18% reported severe pain. The study concluded that most multipara women experience severe afterbirth pain.

Wyman JF,Choi SC,Harkins sw, et al (2005)A correlational study was conducted to assess incidence of women reporting after birth pains after childbirth at London. Non-probability purposive sampling technique was used to select 100 primigravida postnatal women. The data was collected using questionnaire, demographic and obstetric data from hospital notes. The major findings of the study revealed that 27.5% postnatal women reported afterbirth pains; back pain was complained by 25.2%, and headache by 5.7%

Holdcroft A, Snidvongs S. (2003) conducted a correlation study to assess the pain and uterine contractions during breastfeeding in the immediate postpartum period in London. A structured questionnaire that included McGill Pain Questionnaire (TPI) and Visual Analogue Scale (VAS) was used to evaluate the characteristics of pain. The study sample

was 50 women and sample were selected by non-probability purposive sampling. The result showed that 96% woman reported deep pain primarily at three sites: lower abdomen, low back and breast with associated tenderness in 62% of the subjects. The intensity of these pains increased significantly with parity (P≤0.001) along with increase in the number of pain sites (P=0.03), mainly in lower abdomen and back. Similarly both the mean duration and number of uterine contractions increased significantly with parity (P<0.001).The mean duration of uterine contractions correlated significantly with the pain scores (P=0.03-VAS and P=0.006-TPI

Thompson JF, Roberts CL, Currie M, Ellwood DA (2002) A prospective cohort study was conducted to estimate incidence of afterpains and associated symptoms in women. The study sample was 1066 women and samples were collected by simple random sampling. The study finding revealed that among the sample, the incidence of severe afterpains was 52.1% in that 53.8% of women are multiparas and 46.2% are primipara mothers. The study concluded that the most frequent symptoms associated with afterpains were nervousness, stress, depression, irritability and sleeplessness.

Babu M. A (1998) A descriptive study was conducted among 100 postnatal women and their babies in an urban community of Delhi to identify the health problems in postnatal mothers and newborns during puerperium. Data was collected using a semi-structured interview schedule. The study results revealed that 68% of postnatal mothers experienced after-pains during the first two weeks of puerperium, 16% experienced perineal pain, 14% experienced breast engorgement, and 11% had lack of sleep during the first two weeks of puerperium. To relieve these health problems, 66% of postnatal mothers used simple home remedies like homemade cereal mixture, khoya, sugar, dry fruits, and milk mixture which was taken from one week after delivery till four to six weeks

Avidson AB, Chintu K, Erikson B (1997)An exploratory study was conducted to discover the maternal and infant health problems after normal childbirth on 408 postnatal mothers at Zambia. The postnatal mothers were randomly assigned to 2 groups, Group A and Group B. Group A consisted of 208 days who were visited by a midwife in their homes at 3, 7, 28 and 42 days after delivery; Group B consisted of 200 dyads who were visited only at Day 42. Data was collected using an interview schedule. The results showed that the total number of symptoms reported by mothers in Group B was higher (P<0.01). At the end of puerperium in Group A, 1% of the mothers had complaints of abdominal pain, 6.2% had body pain, and 5.6% had cough. In Group B, 20% mothers had complaints of abdominal pain, 11.5% complained of body pain, and 6.9% had fever

Studies related to effectiveness of kegel exercises and prone position on pain reduction and involution of uterus among postnatal mothers.

Hisu RC(2010) A study was conducted to asses the effectiveness of postpartum exercise on reducing the chronic disease risk factor among 60 postnatal mothers in Ontario, London. Random sampling technique was used. The result of the study showed that women were randomly assigned to a nutrition and low intensity postpartum exercise were 30% and moderate intensity exercise were 70% and control group of 20 sedentary postpartum women were included and were not given any intervention. The low and moderate intensity groups lost more body mass(-4.2±4.0kg and -5.0±2.9kg respectively)compared with the control group(-0.1±3.3kg,P<0.01).Thus the study conclude that the post partum exercise program helps to maintain healthy body weight and thereby reduces chronic disease risk factors.

Hay SJ, Morkued S, Fairbrothers KA. (2009)A Quasi randomized trail was conducted to determine the effect of pelvic floor muscle training(PFMT)for prevention and treatment of urinary and faecal incontinence among 6181(3040PFMT,3141 controls) antenatal and postnatal mothers in Newzealand.The study revealed among pregnant women without prior urinary incontinence who were subjected to PFMT less likely reported urinary incontinence in late pregnancy(about56%less;RR 0.44, 95%CI 0.30 to0.65)and up to six months postpartum(about30%less;RR 0.71, 95%CI 0.52 to0.97) compared to who had not received PFMT.And among postnatal women with persistent urinary incontinence who were subjected to PFMT less likely reported urinary incontinence three months after delivery (about20%less; RR0.79, 95%CI0.70to0.90) and 12 months after delivery, women receiving PFMT were about half as likely to report faecal incontinence (RR 0.52, 95%CI 0.31to0.87) compared to who did not receive PFMT. The study conclude PFMT is an appropriate for prevention and treatment of urinary and faecal incontinence in late pregnancy and postpartum.

Paul F, Kathryn B, Diane B(2008) A Prospective cohort study to asses the teaching and practicing of pelvic floor muscle exercise (PFME) among 759 primiparous women in Houston USA. The participants were 71% white women, 19% African-American, 4%Asian and6% Hispanic women. The result showed 484 indicated they had been taught PFME, more among the white women (75%) African American (36%) Asian (48%) Hispanic (39%); P<001; compared to 275 women who had not received any instruction on PFME. The women who received instruction revealed that64% of them were taught exercises during pregnancy, 26% before and after delivery and 10% learned by demonstration during pelvic exam. Among the 484 women who were taught PFME, 68% performed exercise upto±3weeks and 63% were still performing the exercises six months

postpartum. The study concludes there is a need for the improvement on PFME education.

Soltero Gonzalez (2008) conducted a study to know the result of pelvic floor muscle training program in the treatment of post natal mothers afterpains , incontinence and involution of uterus. The patient is informed how to perform the exercises for 6 weeks of visual and auditory biofeedback assisted pelvic floor exercises to develop the pelvic floor muscles and follow-up for one, 3, 6, month and 1 year visits with control for muscle evolution, motivation reinforcement and improvement of the symptoms. Results shows that 412 post natal mothers underwent pelvic floor rehabilitation in a 4 year period, 45.9 % were cured, 38.8 % improved and 15.3 % were treatment failures and concluded that Pelvic floor rehabilitation can cure urinary stress incontinence among post natal mothers and diminishes the number of surgical procedures and hospital costs in the treatment of urinary incontinence.

Glavind K, Fantl JA, Newman DK, Colling J, Nohr S.B, Walter S.(2007) conducted a quasi experimental study on the Effect of Kegel's exercise on Management of Urine Elimination Problems and afterpains for post natal mothers. The objective of the study was to explain the effect of Kegel's exercise on the urinary incontinence for the post natal mothers. Researcher also identified related factors that contributed to pain and urinary incontinence stress issues. Thirty mothers were chosen to be samples. Questionnaires' and observation were used to measure the incontinence pre and post intervention Kegel's exercise was performed for four weeks. Data were analysed by using Wilcoxon sign rank test with significance level of $p <= 0.05$. Results showed that age and sex were significant factors affecting the pain. Kegel's exercise is beneficial for reducing pain and urinary disorders among post natal mothers, especially in

urine management (p=0.002), elimination (p=0.0025), and incontinence (p=0.00025). In conclusion, Kegel exercises applied periodically for post natal mothers are beneficial to treat the urinary incontinence stress issues.

Tarja I, KinnunenM, PassanenM(2007) A pilot trail in primary health care on reducing post partum weight retention among 92 postpartum primipara mothers was conducted in three intervention and three control child health clinics in Finland. Controlled trail technique was used. The intervention included counseling on diet and physical activity. The result revealed in total 50% of the intervention group and 30% of the control group returned to their pre-pregnancy weight (weight retention≤ 0kg) by 10 months postpartum (p=0.06).The confounder adjusted odds ratio for returning to pre-pregnancy weight was 3.89(95%CI 1.16-13.04, p=0.028)for the intervention group compared with the controls. The study concludes the intervention increased the proportion of primiparas returning to pre-pregnancy.

Bump Richard (2005) conducted a study on assessment of kegel's exercise performance after brief verbal instruction that kegel's exercise are used to strengthen the muscles that support the vagina, bladder and urethra, the tube extending from the bladder through the urine passes. The correct performance of Kegel's exercises can be checked by various methods. A bulb attached to a manometer, a device for measuring pressure, can be inserted into the vagina to measure changes in pressure accompanying muscle contraction and relaxation during the exercises. In addition, muscle contraction and relaxations are indicated by changes in the electrical activity of the muscle, or by the physical examination of muscle tone. Most patients are only given brief verbal or written instructions on how to perform Kegel's exercises. The effect of brief verbal instruction on the performance of Kegel's exercise was assessed in 47 women. The pressure within the urethra

was measure at rest and during the exercises. A sufficient Kegel's effort, indicated by a significant increase in the force with which the urethra closes, was observed in 23 women. However, 12 patients performed Kegel's exercises in such a manner that would promote urinary incontinence.

Aukeep. Pelvic Floor Muscles Activities. (2005)A program of pelvic floor muscle exercises, combined with pelvic health education, can be an effective way to manage urinary incontinence in elderly women. In a study, 65 women with urinary incontinence between the ages of 67 and 95 participated. The women in the experimental group underwent a supervised chair-based exercise program for six weeks. The control group received one session of bladder and pelvic health and no supervised training in pelvic exercises. The researchers found statistically significant improvements in the treatment group in a number of areas. Problems with frequency of urination, urine leakage related to feelings of urgency and urine leakage caused by physical activity, coughing or sneezing had all decreased

Willis E.(2000)An experimental study was conducted to evaluate the effectiveness of prone position among postnatal mothers. Study samples were 450 women who had normal vaginal delivery and were selected by simple random sampling. Investigator provided prone position for 5 minutes in 30 minutes interval. The study results revealed that there is a significant reduction in pain on the day 1st and on the day 2nd after prone position when given for three times. The study concluded that practice of prone position was safe and effective method to alleviate afterpains.

Bloom SL, Kelly MA (2000) An experimental study was conducted to assess the effectiveness of prone vs supine positioning in relieving afterpains. Samples were 85 postnatal mothers who divided into two groups and within 24-72 hours of childbirth prone positioning provided

first group and supine for second group. The study results revealed that significantly about 95% of women preferred prone position compared with supine position .The study concluded that prone position is more effective method of pain relief than supine position when applied within 24-72 hours after child birth

Bloom SL, Kelly MA. (2000)conducted an experimental study to assess the effectiveness of prone vs supine positioning in relieving afterpains. Samples were 85 postnatal mothers who divided into two groups and within 24-72 hours of childbirth prone positioning provided first group and supine for second group. The study results revealed that significantly about 95% of women preferred prone position compared with supine position .The study concluded that prone position is more effective method of pain relief than supine position when applied within 24-72 hours after child birth .[15]The above tables shows the obstetrical information of post natal mothers. Majority of women had time of first stage of delivery 6-12 hours. In experimental group 15 (50%) while in control group10 (33.3%)

Studies related to nursing intervention of among postnatal mothers exercises and after pains

Massimo F, Antonella C. (2009)A randomized control trial was conducted to compare the effectiveness of postnatal exercises with conventional therapy in the reduction of pain during puerperium. The study participants were 60 women with either an episiotomy or a perineal laceration after vaginal delivery were assigned randomly to receive the postnatal exercises(n=30) with conventional therapy(n=30).Women who received postnatal exercises had lower pain scores than those with conventional therapy(1.7 +2.4 v/s 3.9+2.4;p=0.0002).

R. baraket et al , (2008) had done a randomized control trail study prone position during post partum period. 72 post natal women were selected in experimental group and 70 from control group . The study revealed that those who practiced prone position had been reduced after pain (mean value was o.745).

Bernandes NO, Santos AM, Oliveira MR. (2008),A study was conducted to describe the profile of postpartum women who attended physical therapy in a public maternity house in Betin to relieve postpartum pain. A total of 215, multiparous women participated in the study .Women (43%)had complaints of breast discomforts,(62.3%) presented normal diaphragm kinetics, (85.1%) tympanic sound at abdominal percussion and normal uterine involution with moderate degree pain(VAS-6 to 7 at different intervals); (87.9%) presented pelvic floor muscle contraction and 30.3% lower limb oedema; abdominal muscle diastases measured supra and infra umbilical 2+1 and 1+1 fingers respectively. The women were treated with diaphragm respiratory exercises, abdominal isometric exercises, pelvic floor muscle contractions, lower limb circulatory exercises, flatus elimination maneuvers, ambulation, and guiding.

Skim M, J and Kim J J (2007) Conducted an experimental study to assess the effect of afterpain reducing exercise with non equivalent control group of pretest post test post natal women who were selected having afterpain (n= 29).The data were selected at two points, prior to intervention and 1 to 4 days after intervention .This study revealed that 1 to 4 days after intervention, the intensity of the afterpain experienced by the intervention, group was significantly lower than that of the control group.

Declercq ER, Sakala C. (2007),A descriptive study was conducted to determine women's experience of afterpains in United States. The sample of 300 postnatal women were selected by stratified sampling method. The study results revealed that afterbirth pain is one of the most common obstetrical problems in most of the women. Among them young adult women ages from 17 to 24 years are most likely to report less pain. Between 50% and 80% of the women reported some level of discomfort associated with afterpains and 10% to 18% reported severe pain. The study concluded that most multipara women experience severe afterbirth pain.

Morkveds(2007) assessed the effectiveness of exercise in post natal women in Trandhein University and hpspital. The intervention of pelvic floor exercise (Kegel exercise), muscle training , aerobic exercise, position were reduce the afterpains. **Conclusion :** Special intervention during postpartum was effective in reducing the afterpain in post natal period.

Gutke et al. , (2006) Conducted a cohort study on after pain and perineal pain in post partum period . This sample consist of 313post natal women. This study revealed that 194 post natal mother had afterpain, 17% had perineal pain and combined after pain and perineal pain 29% .

***Gelemeter et al(2006*)** Conducted a descriptive study to assess the incidence of after pain and discomfort at first day of delivery during post natal periodThis study showed that estimated incidence of after pain was 48% in 2000,the incidence rate was estimated 54.8% in 2002.

Holdcroft A, Snidvongs S. Pain (2003),A correlational study was conducted to assess the pain and uterine contractions during breastfeeding in the immediate postpartum period in London. A structured questionnaire that included McGill Pain Questionnaire (TPI) and Visual

Analogue Scale (VAS) was used to evaluate the characteristics of pain. The study sample was 50 women and sample were selected by non-probability purposive sampling. The result showed that 96% woman reported deep pain primarily at three sites: lower abdomen, low back and breast with associated tenderness in 62% of the subjects. The intensity of these pains increased significantly with parity (P≤0.001) along with increase in the number of pain sites (P=0.03), mainly in lower abdomen and back. Similarly both the mean duration and number of uterine contractions increased significantly with parity (P<0.001).The mean duration of uterine contractions correlated significantly with the pain scores (P=0.03-VAS and P=0.006-TPI).

Thompson JF, Roberts CL, Currie M, Ellwood DA. (2002),A prospective cohort study was conducted to estimate incidence of afterpains and associated symptoms in women. The study sample was 1066 women and samples were collected by simple random sampling. The study finding revealed that among the sample, the incidence of severe afterpains was 52.1% in that 53.8% of women are multiparas and 46.2% are primipara mothers. The study concluded that the most frequent symptoms associated with afterpains were nervousness, stress, depression, irritability and sleeplessness.

Pennick young 2002 proved that the afterpains increases with advancing multi gravida mothers it interfere with involution of uterus.

Stephen 2002 stated that conservative management of afterpain in post natal mothers generally includes performance of appropriate exercises. The most component included in postnatal period. Preparation programme protected from under strain so that mother can perform the physical activities daily.

2.2 CONCEPTUAL FRAME WORK

Conceptual frame work is a complex whole of interrelated concepts or abstracts that are assembled together in some rational scheme by virtue of their relevance to a common theme . A conceptual model provides for logical thinking for systematic observation and interpretation of observed data . The model also gives direction for relevant questions on phenomena and points out solutions to practical problems as well as serve as a spring board for the generation of hypothesis to be used.

The conceptual framework used for this study is based on **General System Approach**. It was developed by Ludwig Von Bertanlanfy (1968) and modified by J.w. Kenny and is called open system model. The system consists of a set of interacting components with a boundary that filters the type and rate of exchange with the environment whole person . The system is defined as "set of components or units interacting with each other within a boundary that filters both the kind and rate of flow of inputs and outputs from the system." The general system theory is concerned with changes due to interaction between the various factors (variables) in a situation. In human beings interaction between person and environment changes continuously. The general system theory provides a way to understand the many influences on the whole person and the possible input of change of any part of the whole.

Concept

The main concept of general systems theory or input, throughput and output.

- The input refers to any other form of information, energy or material that enters in to the system through its boundary.
- Throughput refers to the process whereby system transforms, creates and organizes.
- Output refers to energy , information or matter that is transferred to the environment as a result of the throughput.

Input:

The input in the present study refers to the baseline variables for both experimental and control group of post natal mothers such as age, educational status, occupation, income of the family, family support, type of family, variables such vas height, weight , pre assessment of afterpains by numerical pain scale and involution of uterus assessed by clinical proforma (observe the consistency of uterus and measuring the fundal height and amount or colour of the lochia.)

Throughput:

Throughput is the use of biological, psychological and socio cultural sub systems to transform the inputs. Throughput is the process that occurs at some points between input and output process which enables the input to be transformed in to output such a way that it can readily used by the system. In this study, throughput refers to pretest level of after pains and involution of uterus in experimental group among postnatal mothers and the process of administering kegel exercise and prone position. And assess the post test level of afterpains and involution of uterus among post natal mothers. Routine care was given to control group of post natal mothers.

Output:

Output is the return of matter, energy and information to the environment in the form of both physical and psychological behaviour. In this study , it refers to improve the involution of uterus and reducing afterpains by admistering of kegel exercise and prone position in experimental group .

Feedback:

According to the theorist, feed back is the information of environmental responses to the system. Output is utilized by the system in adjustment, to the interaction with the environment. The effectiveness of kegel exercise and prone position in involution of uterus and afterpains level is considered as the difference observed and expected.

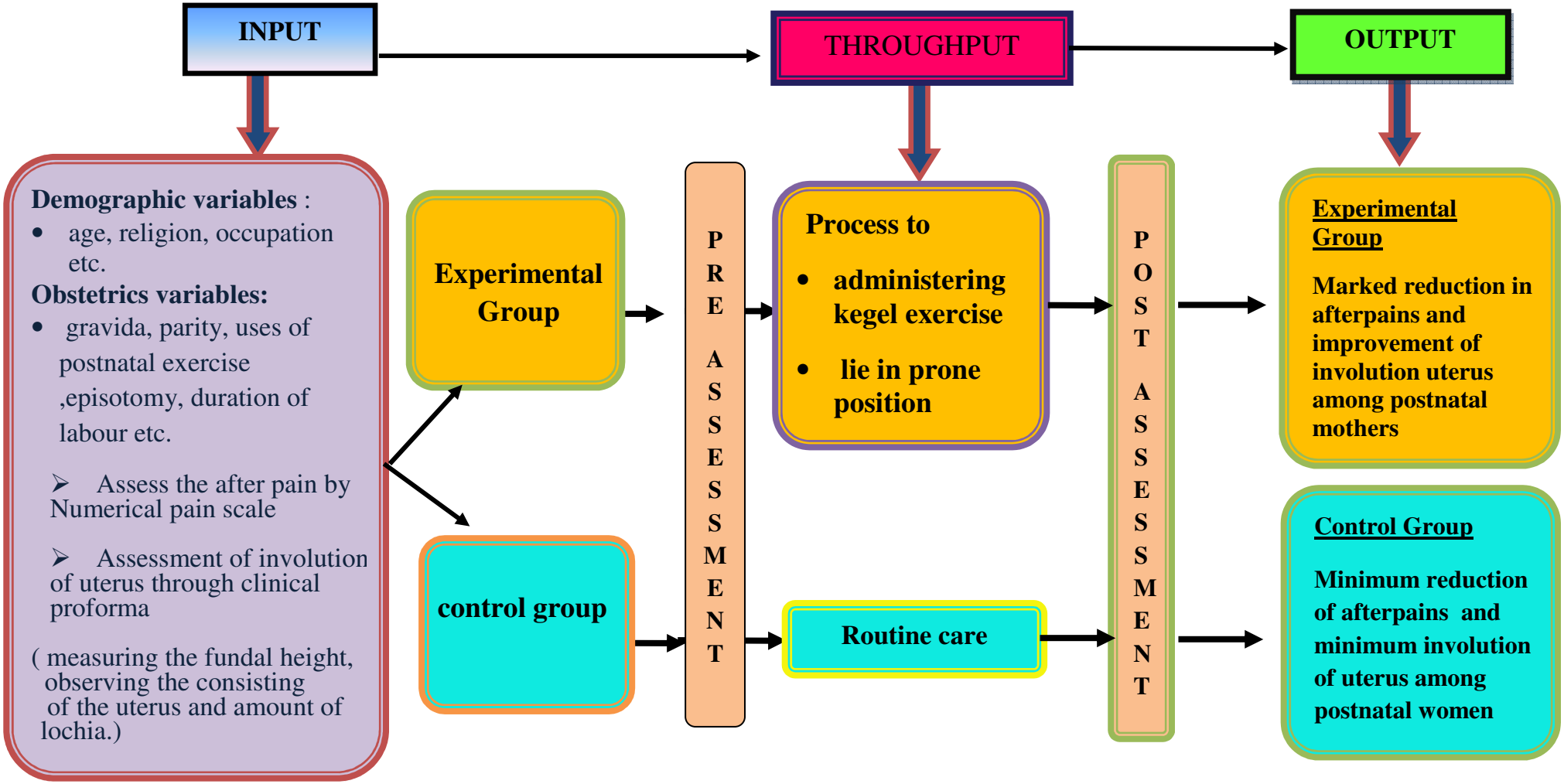


Figure 1 Conceptual frame work: General System approach

CHAPTER III
METHODOLOGY

Research methodology is a way to solve the problems systematically. It indicates the general pattern of organizing the procedures for gathering reliable data for the purpose of investigation **(Denise F.Polit, 2004)**

In this section, the following topics are discussed in relation to the methodology adopted by the investigator. It includes research design, setting of the study, variables, population, sample size, sampling technique, and sample selection criteria, description of the tool, content validity, reliability, pilot study, and method of data collection and plan for data analysis.

According to B . T. Basavanthappa(2007) research methodology involves the systematic procedures by which the researcher starts from intial identification of the problem to its final conclusions. The role of methodology consists of procedures and techniques the study.

This chapter deals methodological approach adopted to evaluate the effectiveness of kegel exercise and prone position on afterpains and involution of uterus among postnatal mothers. It includes description of research approach, among research design, variables, setting up of the study of population, sample size, sampling techniques, development and description of the tool, validity, reliability, pilot study, data collection procedure and plan for data analysis.

3.1 RESEARCH APPROACH

In order to achieve the objectives of the study, an evaluative approach was found to be appropriate and selected for the study. The research approach tells the researcher from where the data to be collected, what to be collected, how to be collected and how to analyse them. It also

suggests possible conclusion and helps the researcher in answering specific research questions in the acceptable and efficient way.

3.2 RESEARCH DESIGN

The term 'Research Design' is the structural frame work for study implementation and it is blue print for the study (Talbolt 1995)

Quasi experimental research design was adopted in this study with an experimental and control group.

Exprimental group: Q_1 **X** Q_2

Control group: Q_3 Q_4

Q_1 : Pre assessment of the afterpains and involution of uterus among post natal mothers in experimental group.

Q_2 : Post assessment of the afterpains and involution of uterus among postnatal mothers in experimental group.

X: Administration of Kegel exercise and prone position among post natal mothers in experimental group.

Q_3: Pre assessment of the afterpains and involution of uterus among post natal mothers in control group.

Q_4 : Post assessment of the afterpains and involution of uterus among post natal mothers in control group.

Manipulation

Process to making the subject to do Kegel exercise for 10 seconds for 3 times a day, 10 repetitions each time for three days among the postnatal mother and also same post natal mothers made to lie in prone position for 3-5 minutes for 3 times a day at 30 minutes interval, 3 repetitions each time for three days.

Control group - This group consists of 30 postnatal mothers from day one delivery, and routine care was provided.

E**xperimental group:** This group consist of 30 postnatal mother from day one delivery. There were selected for experimental group and there were made to do kegel exercise and prone position.

3.3. VARIABLES

Independent variables: Kegel exercise and prone position.

Dependent Variables : After pains and involution of uterus.

3.4 SETTING OF THE STUDY

The location for conducting the research is referred to as setting (Burns and Groove 2002) .

The research settings are the specific places of research where data collection is made. The selection of the setting was done on the basis of the feasibility for conducting the study, availability of the subjects and geographical proximity.

Setting for the present study was ***the postnatal ward at IOG,*** Chennai -600 008. Though many hospitals are there in the private sector, people residing in and around Chennai prefer IOG hospital to meet their health care needs. This is because of economical reasons as well as availability of health care facilities and infrastructure in this institution. This was selected because of the investigator's acquaintance with the setting, easy accessibility and co-operation of the authorities.

3.5 STUDY POPULATION

Postnatal mothers from day one delivery admitted in the postnatal wards at Institution of Obstetrics and Gynecology, Egmore, Chennai -600 008.

3.6 SAMPLE

Polit and Hungler (1999) state that a sample consists of the subject of the population selected to participate in the research study. To fulfill the objective of the study, the postnatal mothers admitting in the postnatal ward were selected.

3.7 SAMPLE SIZE

The sample size for the study will comprise of 60 postnatal mothers. Out of which, 30 will be in experimental group and 30 in control group.

3.8 SAMPLING TECHNIQUE

Non probability purposive sampling will be used to select the samples.

3.9 CRITERIA FOR SAMPLE SELECTION

Inclusion Criteria for sampling

1. Postnatal mothers with singleton gestation that had normal vaginal delivery.
2. Postnatal mothers with singleton gestation that had normal vaginal delivery with or without episiotomy.
3. Post natal mothers who are willing to participate.
4. Post natal mothers who are able to speak and understand the tamil.

Exclusion criteria for sampling

1. Postnatal mothers with operative deliveries.
2. High risk factors like postpartum haemorrhage, placenta accreta, shock, pulmonary embolism, uterine rupture, puerperal sepsis and multiple pregnancy.
3. Who are not willing to participate
4. Less than 18 years & more than 35 years.

3.10. DEVELOPMENT AND DESCRIPTION OF THE TOOL

Tool is developed after extensive review of literature from various text book, journals, internet search and discussion and guidance from the experts in the field of nursing, Department of obstetrics and gynecology and physiotherapist.

It has two sections 1 &2 as follows:

Section -1

- Part A – Demographic proforma to collect baseline data.
- Part B – Numerical Pain Rating scale to assess level of afterpains.
- Part C – Clinical proforma to assess involution of uterus.

It consist of : -fundal height

-Consistency of uterus

-lochia

–colour and odour of lochia.

Scoring Technique

Pain: To find out the level of pain, numerical rating scale was used and was given score from 0-10 the following score indicates the level of pain

Pain rating	**Scale**	**Mark**
No pain	0	0
Mild pain	1-3	1
Moderate pain	4-6	2
Severe pain	7-9	3
Worst possible pain	10	4

Involution of uterus : To find out the performance of involution uterus by assessed daily measuring the fundal height, palpate the consisting of the uterus and observing the lochia (colour, odur and amount)

SECTION-B

Observation schedule on Measurement of Fundal height postnatal mothers on Involution of uterus

Instruction:-

The observer measures the Fundal height of postnatal mothers and fill the appropriate space.

S.No	Patient	Time	Pretest	Post test		
				D1	D2	D3
				cm	cm	cm

Scoring:

<11cm = Good involution
12-13 cm = Fair involution
13-14 cm = Slow involution
} **3rd day, 3rd provision**

3.11. ETHICAL CONSIDERATION

The study objectives, intervention and data collection procedure were approved by the research and ethical committee o f the institution. The research proposal was approved by the experts prior to the pilot study and permission for the main study was obtained from the Director and Head of the Institution of Obstetrics and Gynecology, Egmore, Chennai-08. An informed consent was obtained from each postnatal women before starting the data collection. Assurance was given for confidentiality and privacy.

3.12 TESTING OF THE TOOL

3.12.1 Validity of the tool

Data collection tool is an instrument that measures the variables of interest of the study accurately precisely and sensitively. In the present study Gynecologists, nursing and medical experts validated the entire sections of

the tool. The experts were requested to check the relevance, sequence and adequacy of the content. Based on their suggestion the tool was reframed.

3.12.2 Pilot study

Pilot study is a trail run for the main study, to test the reliability, practicability and feasibility of the study. A formal permission was obtained from the Director and Head of the Institution of Obstetrics and Gynecology, Egmore, Chennai -08. The pilot study was conducted in postnatal ward of the Institution of Obstetrics and Gynecology, Egmore, Chennai -08. 6 postnatal mothers were selected for pilot study. Each three(3) for experimental group and control group. Non probability purposive sampling technique was used. The tool was feasible to administer and hence no further modification was done. The result showed that post assessment of the involution of uterus improved and afterpains level decreased.

3.12.3 Reliability of the tool

After the pilot study, reliability of the tool was assessed by using interrater method. pretest, and posttest method. Correlation coefficient values pain (0.83) and involution of uterus (0.77). This correlation coefficient is very high and it is good tool for assessing the effectiveness of kegel exercise and prone position on afterpains and involution of uterus among postnatal mothers.

Development of protocol for kegel exercise and prone position

Researcher making the subject to do kegel exercise for 30 postnatal mothers for 10 seconds for 3 times day, 10 repetitions each time for 3 days and same 30 postnatal mothers is made to lie in prone position for 3 to 5 minutes for 3 times a day at 30 minutes interval, 3 repetitions each time for 3 days. It consist of effectiveness regarding kegel exercise and prone position on reducing the afterpains and improving the involution of uterus among postnatal mothers.

3.13 . DATA COLLECTION PROCEDURES:

Formal permission was obtained from the Director and Head of the Institution of Obstetrics and Gynecology, Egmore, Chennai-8. The data collection was done for the period of 4weeks. The selected postnatal mothers were assured that the data collected will be kept confidential. Samples were selected by using non probability purposive sampling technique. Daily 2 samples in experimental and in control group were selected for this study. In control group-level of afterpains and involution of uterus will be assessed every day morning and evening for 3days through numerical pain rating scale and clinical proforma and also routine care was provided. In experimental group –Pre intervention pain score and involution of uterus will be assessed among postnatal mothers through numerical pain rating scale and measuring the fundal height each day morning before giving interventions. Process to making the subjects to do kegel exercise for 10seconds for 3 times a day , 10 repetitions each time for three days and also made to lie in prone position for 3-5 minutes for 3times a day at 30 minutes interval , 3repetition each time for three days. The post intervention pain score and involution of uterus will be assessed by the same tools each day. In control group routine care provided.

Phase-1: Pre assessment

The investigator introduced herself and established rapport by explain the purpose. Informed consent was obtained and confidentiality was maintained. In pre assessment demographic variables, numerical pain rating scale and clinical proforma were used. The researcher spent 90 minutes for each postnatal mothers in administering of kegel exercises and prone position

Thirty post natal mothers were initiated to do kegel exercise for10 seconds for 3times a day 10 repetition for each time for three days postnatal mothers were made to lie on prone position for 3 to 5 minutes for three times a day at 30 minutes interval, 3 repetition each time for three days. Pre test

will be assessed every day morning before doing kegel exercise and prone position for 3 days.

Phase- II: Post assessment

The investigator conducted the post assessment of afterpains and involution of uterus assessed by numerical pain rating scale and clinical proforma every day evening after third provision of kegel exercise and prone position for 3 days.

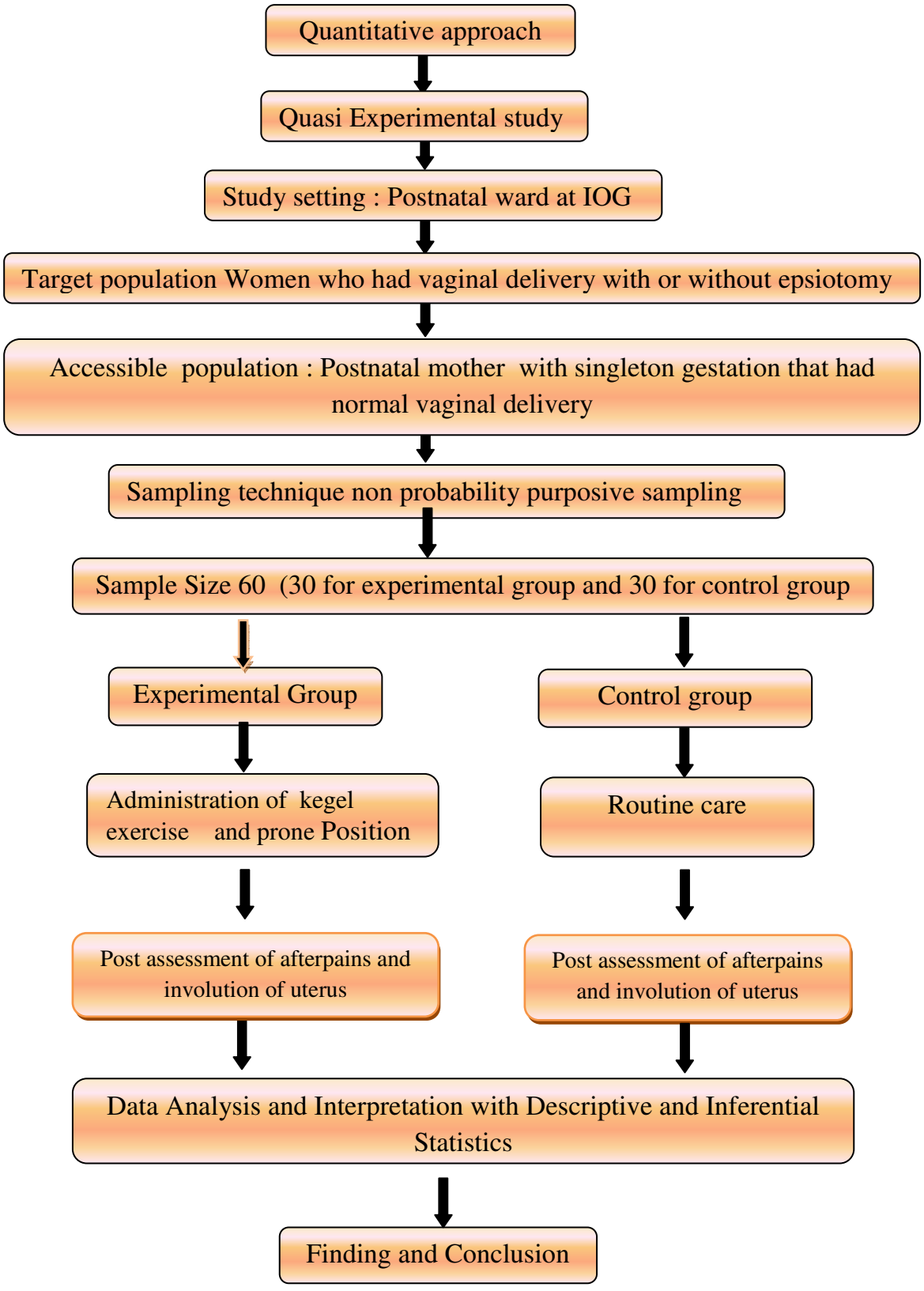
The data analyzed were edited , coded and entered in excel sheet. The data were analyzed using SPSS version 10. A probability of less than 0.05 was considered to be significant.

3.14 THE DATA WERE ANALYZED AS FOLLOWS,

1. Demographic variables in categorical/dichotomous were given in frequencies with their percentages.
2. Afterpains and involution of uterus score were given in mean and standard deviation.
3. Difference between EXPERIMENTAL and CONTROL was analysed using student independent t-test .
4. Association between level of afterpains and involution of uterus with demographic variables are calculated using chi square test.
5. Differences between experiment and control score was analysed using mean difference with 95% Confidence interval and proportion with 95% confidence interval.
6. Simple bar diagram, Multiple bar diagram, ,Pie diagram were used to represent the data .
7. $P<0.05$ was considered statistically significant

FIGURE -2

SCHEMATIC REPRESENTATION OF RESEARCH DESIGN



CHAPTER - 1V

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the statistical analysis and interpretation of the data collected. Analysis is a method for rendering quantitative, meaningful and intelligible information. The research problem can be studied and tested including the relationship between the variables.

The data deals with the demographic variables and obstetrical variables, pre and post test assessment of afterpains by numerical pain rating scale and involution of uterus through clinical profoma such as observe the consistency of the uterus , amount of lochia and measuring the fundal height. The data was assembled, analysed, and tested for their significance using appropriate statistical methods and the results are presented below.

The analysis used for this study was descriptive and inferential analysis.

ORGANIZATION OF THE DATA

Section A : Description of the demographic and obstetrical variables.

Section B : Pre Assessment of afterpains and involution of uterus among experimental and control group of post natal mothers.

Section C : Comparison of pre and post test level of afterpains and involution of uterus among experimental and control group of post natal mothers.

Section D : Effectiveness of Kegel exercise and Prone position

Section E : Association of findings with selected demographic and obstetrical variables with after pain and involution of uterus among post natal mothers .

Section A : Description of the demographic and obstetrical variables.

Table 1. DEMOGRAPHIC PROFILE

Demographic variables	Categories	Group			
		Experiment		Control	
		n	%	n	%
Age	> 20 years	11	36.7%	10	33.3%
	21 - 25 years	8	26.7%	10	33.3%
	26 - 30 years	9	30.0%	8	26.7%
	31 - 35 years	2	6.7%	2	6.7%
Religion	Hindu	19	63.3%	16	53.3%
	Christian	9	30.0%	12	40.0%
	Muslim	2	6.7%	2	6.7%
Educational Status	Non formal	3	10.0%	3	10.0%
	Primary	12	40.0%	13	43.3%
	Secondary	10	33.3%	6	20.0%
	Graduate	5	16.7%	8	26.7%
Occupation	Housewife	21	70.0%	21	70.0%
	Cooly	3	10.0%	1	3.3%
	Private company	4	13.3%	5	16.7%
	Others	2	6.7%	3	10.0%
Income	< Rs.2000	10	33.3%	12	40.0%
	Rs.2000 -3000	18	60.0%	14	46.7%
	Rs.3000-4000	2	6.7%	4	13.3%
Type of family	Joint family	13	43.3%	11	36.7%
	Nuclear family	12	40.0%	15	50.0%
	Extended family	5	16.7%	4	13.3%
Place of living	Rural	5	16.7%	9	30.0%
	Urban	18	60.0%	14	46.7%
	Suburban	7	23.3%	7	23.3%
Type of marriage	Relative	18	60.0%	13	43.3%
	Non relative	12	40.0%	17	56.7%
Height	140 -145cm	4	13.3%	3	10.0%
	146 -150cm	13	43.3%	15	50.0%
	151 -155cm	8	26.7%	9	30.0%
	>155cm	5	16.7%	3	10.0%
Weight	50 -55 kg	13	43.3%	16	53.3%
	56 -65 kg	6	20.0%	7	23.3%
	65 -70 kg	7	23.3%	5	16.7%
	>70 kg	4	13.3%	2	6.7%
Food habits	Vegetarian	4	13.3%	3	10.0%
	Non vegetarian	26	86.7%	27	90.0%
Age at menarche	< 12 yrs	5	16.7%	3	10.0%
	12 -15 yrs	22	73.3%	22	73.3%
	16 -19 yrs	3	10.0%	5	16.7%

Table 1 reveals about the demographic profile of the post natal mothers

The above table shows the demographic information of post natal mothers. Age of post natal mothers in experimental group11(36.7%) belonged to < 20 years age group while in control group 10 (33.3%) and also 10 (33.3%) in 21 – 25 years age in control group. With record to Religion majority belonged to Hindu 19 (63.3%) in experimental group and 16 (53.3%). Mostly post natal mothers are educated at the level of primary school in both the experimental 12 (40.0%) and 13 (43.3 %) in control group. Most of women's are house wife in experimental group 21 (70%) and also same 21 (70%) in control group. Monthly income of the majority of post natal mothers ranges from RS 2000 to 3000 experimental group 18(60.0%) and control group 14 (46.7%). Majority of the women come from joined family. In experimental 13 (43.3%) and control group 15 (50.0).

Most of the women came from urban experimental group 18 (60.0%) and control group14 (46.7%). Majority of the women close relative marriage in experimental group 18 (60.0%).In control group17 (56.7%) Most of the women are non relative marriage. Most of the women height 146 to 150 cm in both the experimental group 13 (43.3%) and control group 15 (50.0%) . Most of the women weight 50 to 55 kg in both group. In experimental group 13 (43.3%) And control group 16 (53.3%). Their diet pattern mostly were non vegetarian, in experimental group 26(86.7%) and control group 27 (90.0%).

Most of the women age at the menarche 12 to 15 years, in experimental group 22(73.3%) and control group 22 (73.3%).

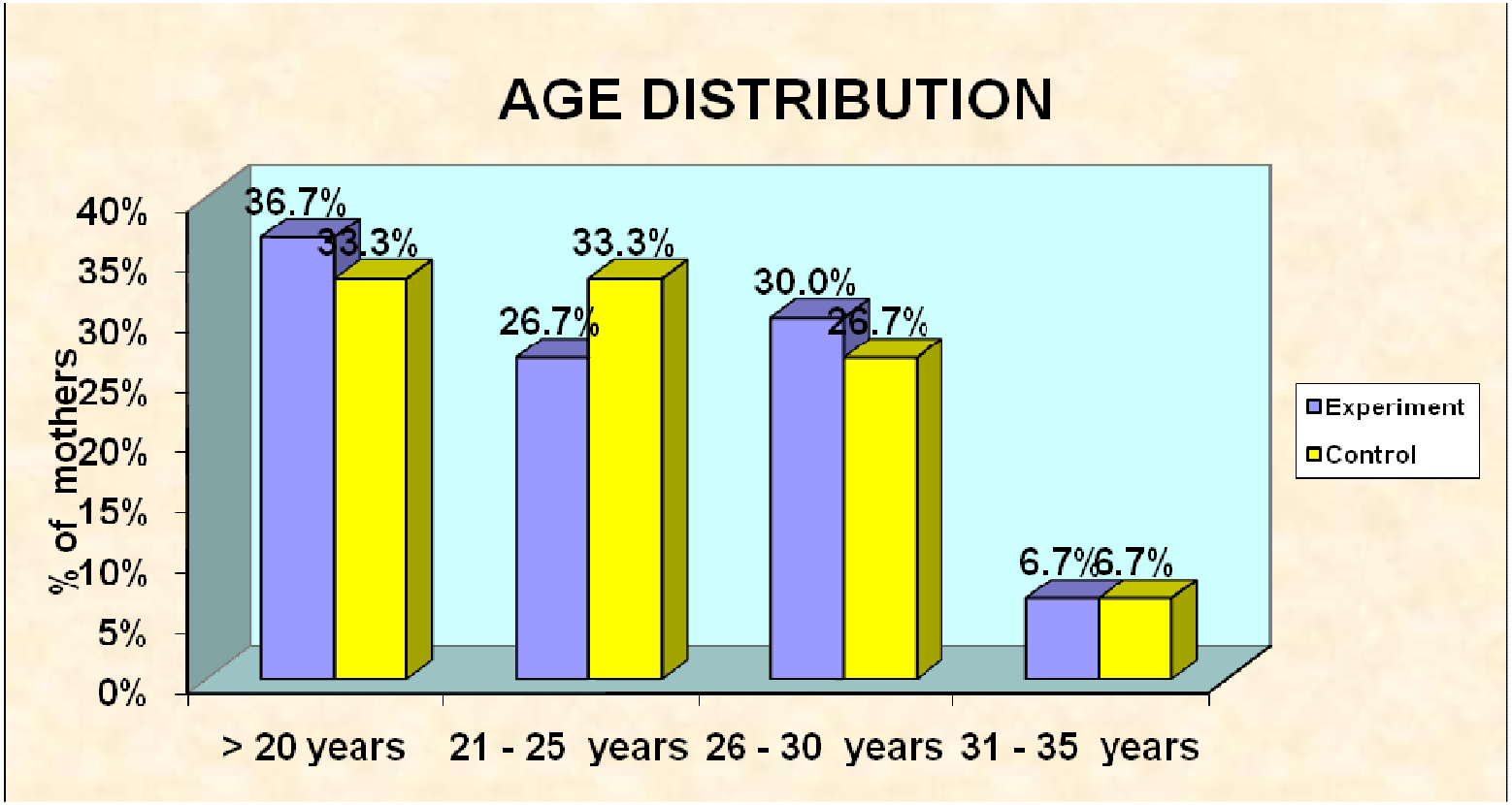


Figure 3. shows the age distribution of post natal mothers ,majority of the participants from Experimental and control group are >20 years of age

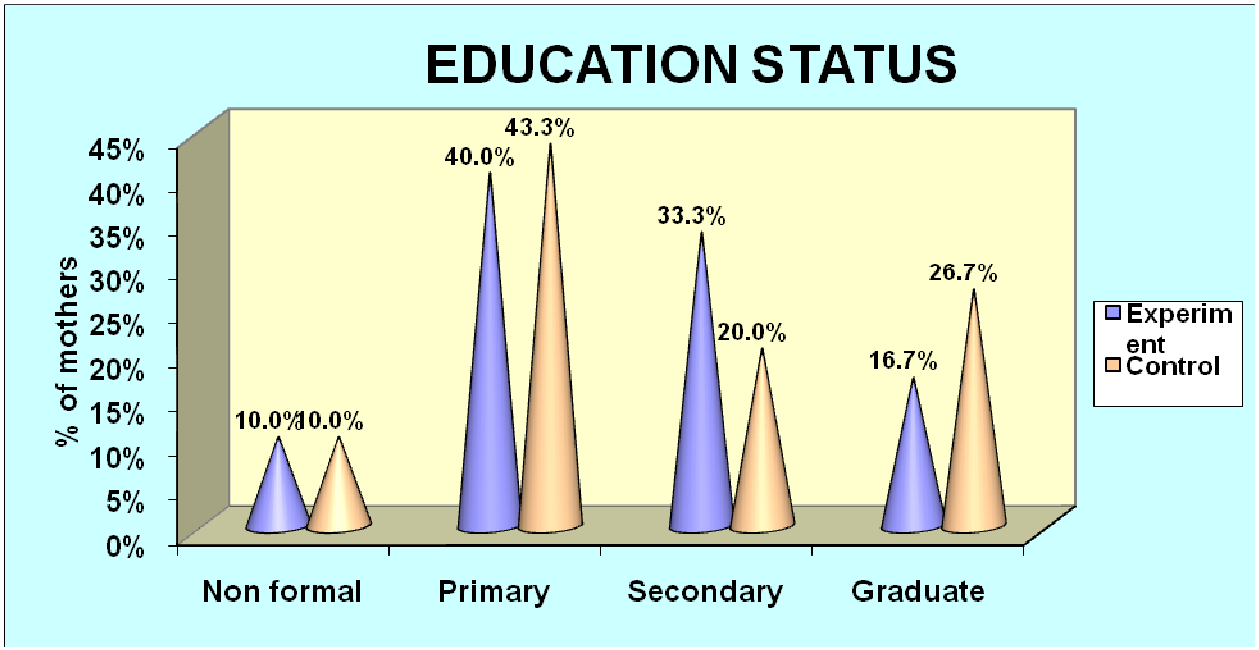


Figure 4. shows the educational status of post natal mothers ,majority of the participants from Experimental and control group had primary education

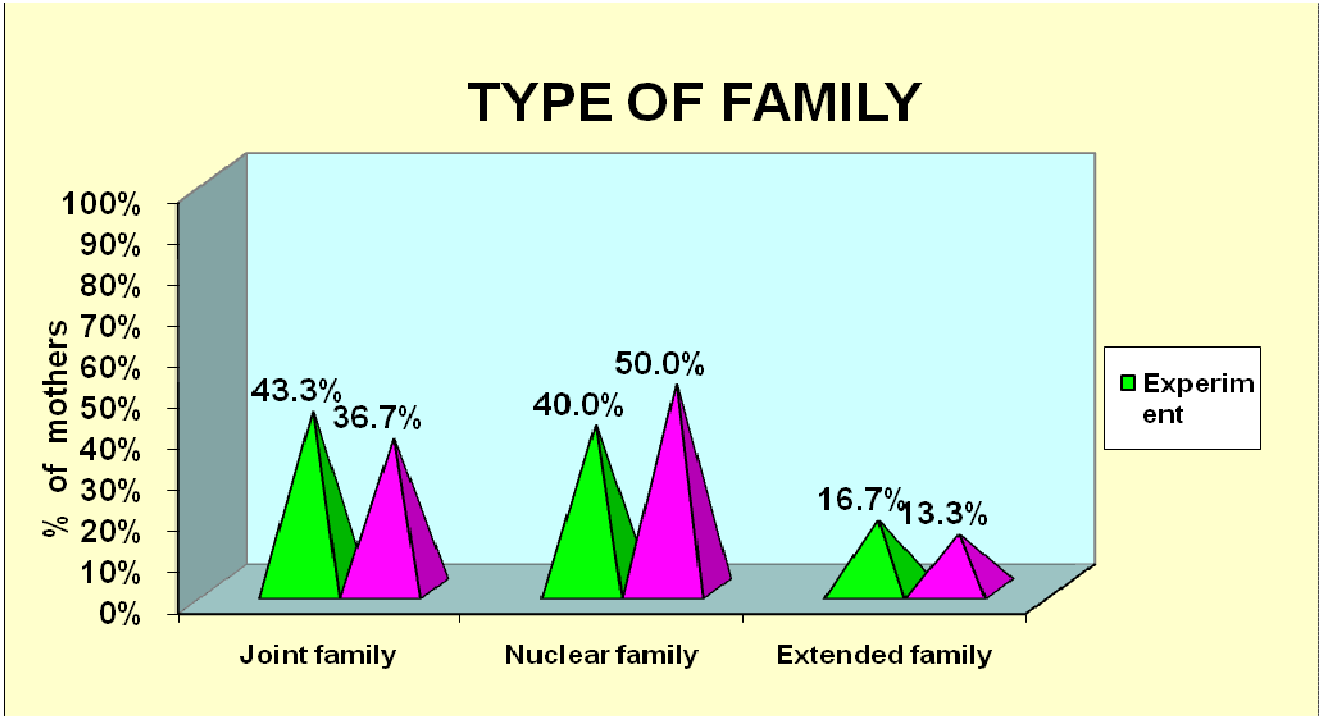


Figure 5 shows about the type of family, majority of them are belongs to nuclear family

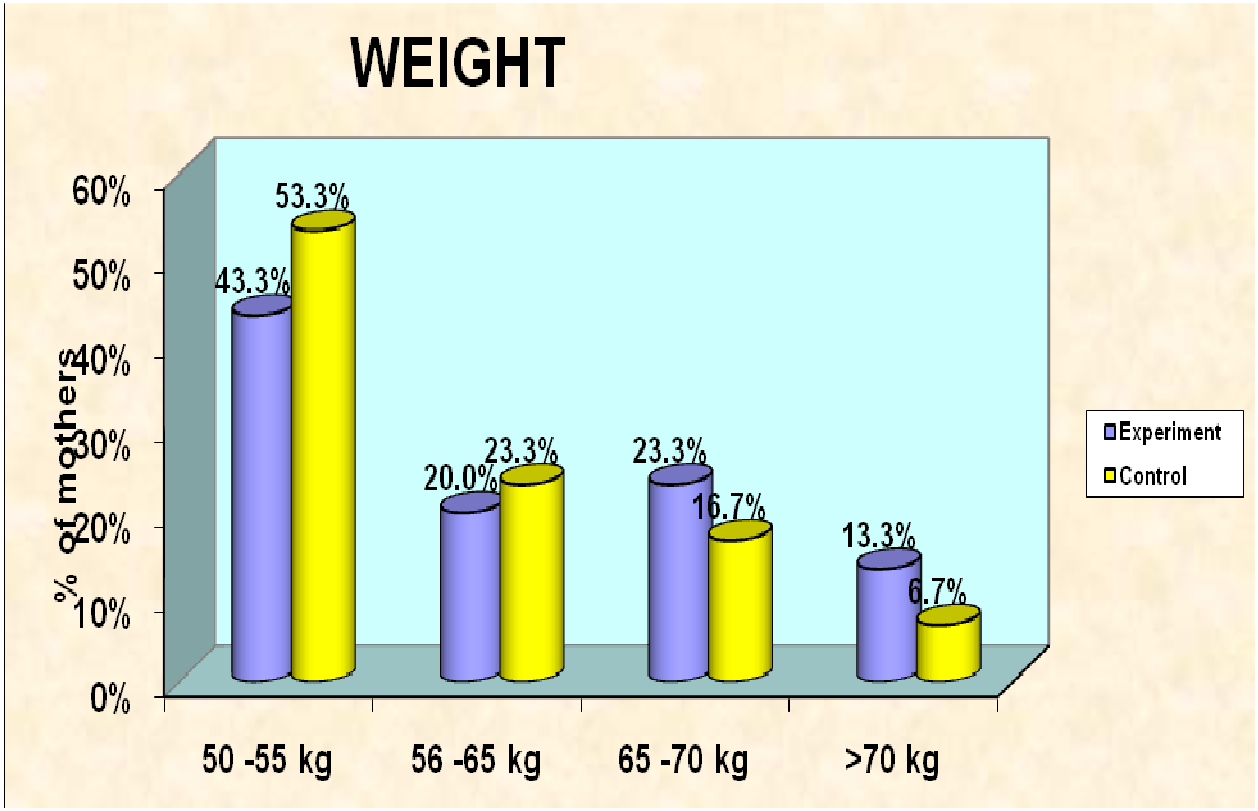


Figure 6 shows about the distribution of the weight of the mother

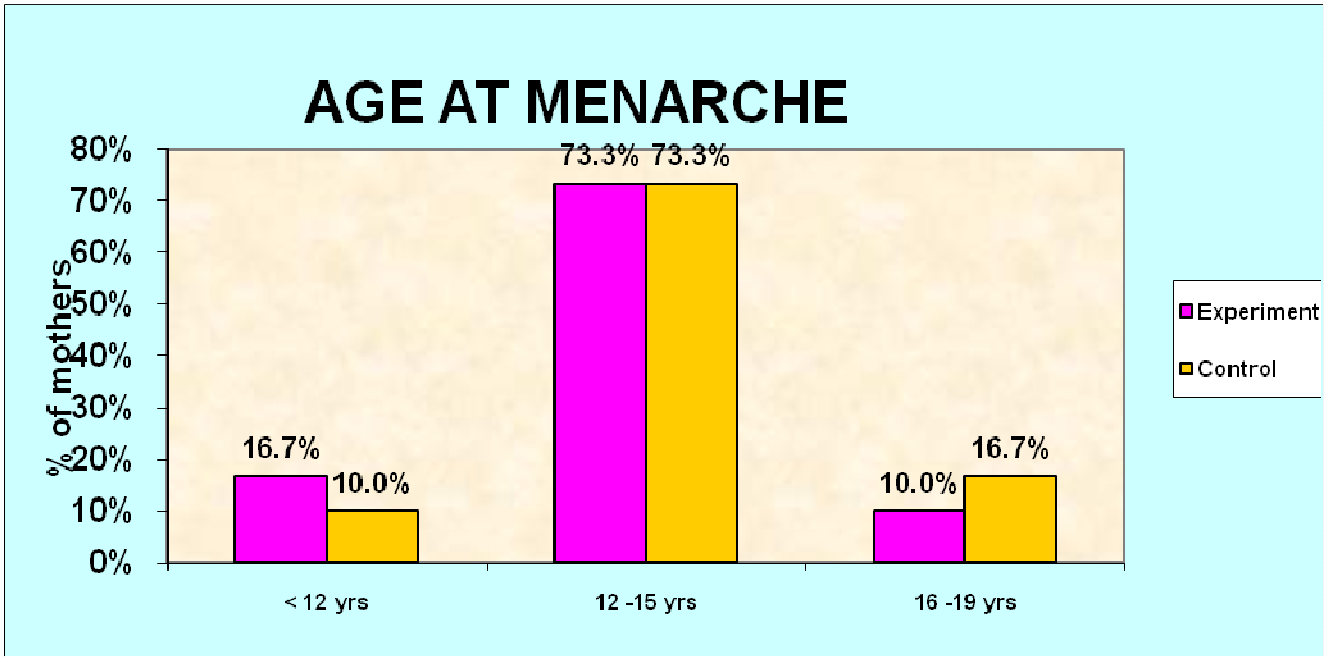


Figure 7 reveals about the menarche age of the study participants

Table 2. OBSTETRICAL VARIABLES

Obstetrical information		Group			
		Experiment		Control	
		n	%	N	%
Time of 1st stage of delivery	6 -12 hrs	15	50.0%	10	33.3%
	13 -14 hrs	10	33.3%	11	36.7%
	24 hrs	5	16.7%	9	30.0%
Episiotomy	Yes	15	50.0%	21	70.0%
	No	15	50.0%	9	30.0%
Time of 3rd stage of labour	10 -15 mins	14	46.7%	13	43.3%
	16 -30 mins	10	33.3%	11	36.7%
	30 -45 mins	6	20.0%	6	20.0%
When the postnatal exercise has to be started	Immediately after delivery	20	66.7%	15	50.0%
	First day of delivery	8	26.7%	12	40.0%
	Third day of delivery	2	6.7%	3	10.0%
How long the postnatal exercise can be done	1- 2 months	11	36.7%	9	30.0%
	2- 3 months	10	33.3%	8	26.7%
	6 months	9	30.0%	13	43.3%
Uses of postnatal exercise	To increase sleep	5	16.7%	7	23.3%
	To provide comfort	14	46.7%	11	36.7%
	Strengthening of the abdominal	11	36.7%	12	40.0%
Colour of bleeding in first three days after delivery	Red	30	100.0%	30	100.0%
How often you will change pad in a day	Four	20	66.7%	16	53.3%
	Five	10	33.3%	14	46.7%
Gravida	First baby	11	36.7%	14	46.7%
	Second baby	19	63.3%	16	53.3%
Para	First baby	24	80.0%	24	80.0%
	Second baby	6	20.0%	6	20.0%
Number of live children	One	24	80.0%	24	80.0%
	Two	6	20.0%	6	20.0%

Table 2. shows the obstetrical information about the study participants among them majority of the participants are second gravid(63.3%)in experimental group,and (53.3%) in control group.

- Above table shows the distribution of obstetrical information of post natal mothers with after pains and involution of uterus.

- Regarding time of first stage of delivery in majority of the women 6-12 hours in expremental group 15 (50.0%) , and 13-14 hours in control group 11 (36.7%). With episiotomy 15 (50%) and without episiotomy in experimental group 15 (50%). In control group with episiotomy 21 (70.0%), without episiotomy 9 (30.0%).

- ***Majority of time of third stage of labour 10-15 minutes in both group. In experimental group 14 (46.7%) and in control group 13 (43.3%). Most the women thought post natal exercise can start immediately after delivery. In experimental group 20 (66.7%) and control group 15 (50.0%).***

- Regarding the duration of post natal exercise in experimental group 1-2 months , 11(36.7%) I control grouph 6months , 13(43.3%).

- Considering the uses of post natal exercise to provide comfort in experimental group 14(46.75). Strengthening of the abdominal muscle in control group 12 (40%).

- With regard to colour of lochia in first three days in after delivery in both group red in colour. In experimental group 30(100%) and also in control group 30 (100%). Most of the mothers changed four pad each day in experimental group 20 (66.7%) and in control group 16 (53.3%).

- Majority of the mothers belongs to second gravid in experimental group 19 (63.3%) and in control group 16(53.3%).

- Most of the mothers belongs to first baby In experimental group24(80.0%) and in control group also 24(80.0%).

- Considering parity of women in both group had one children. In experimental group 24(80.0%) and in control group 24(80.0%).

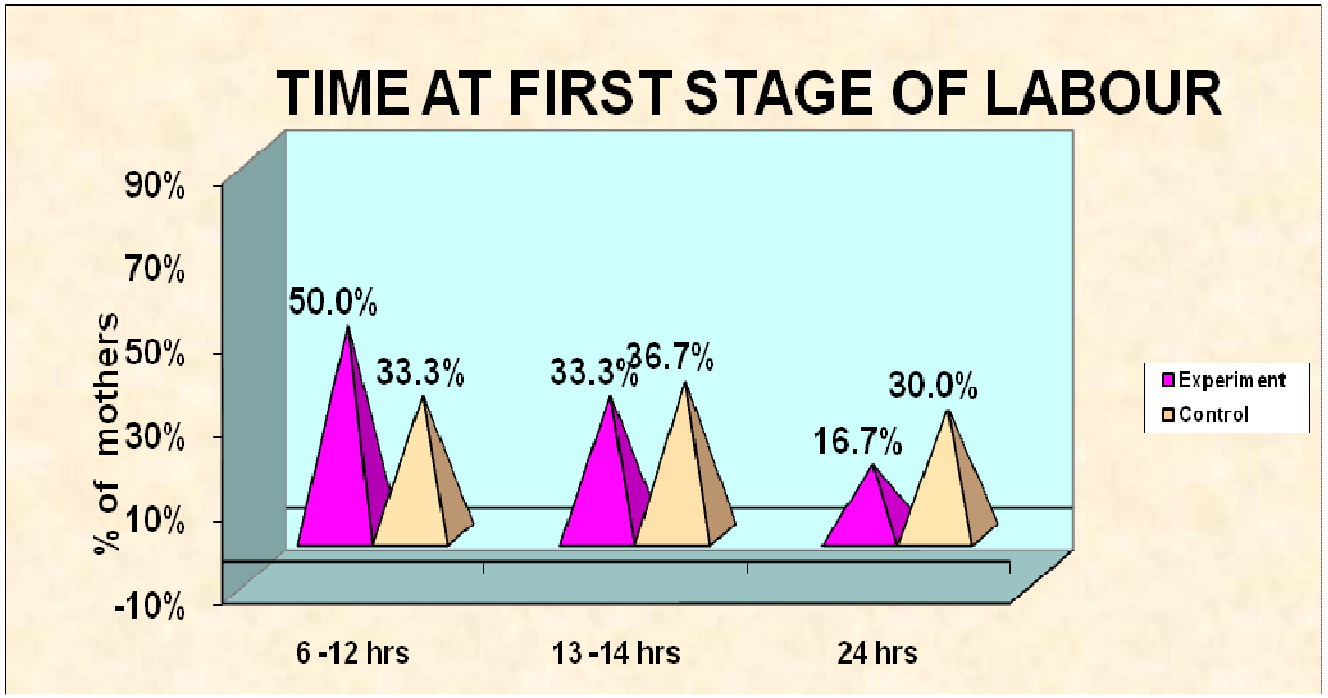


Figure 8. shows the distribution of post natal mothers according to the time of their first stage of labour in **experimental and control group**

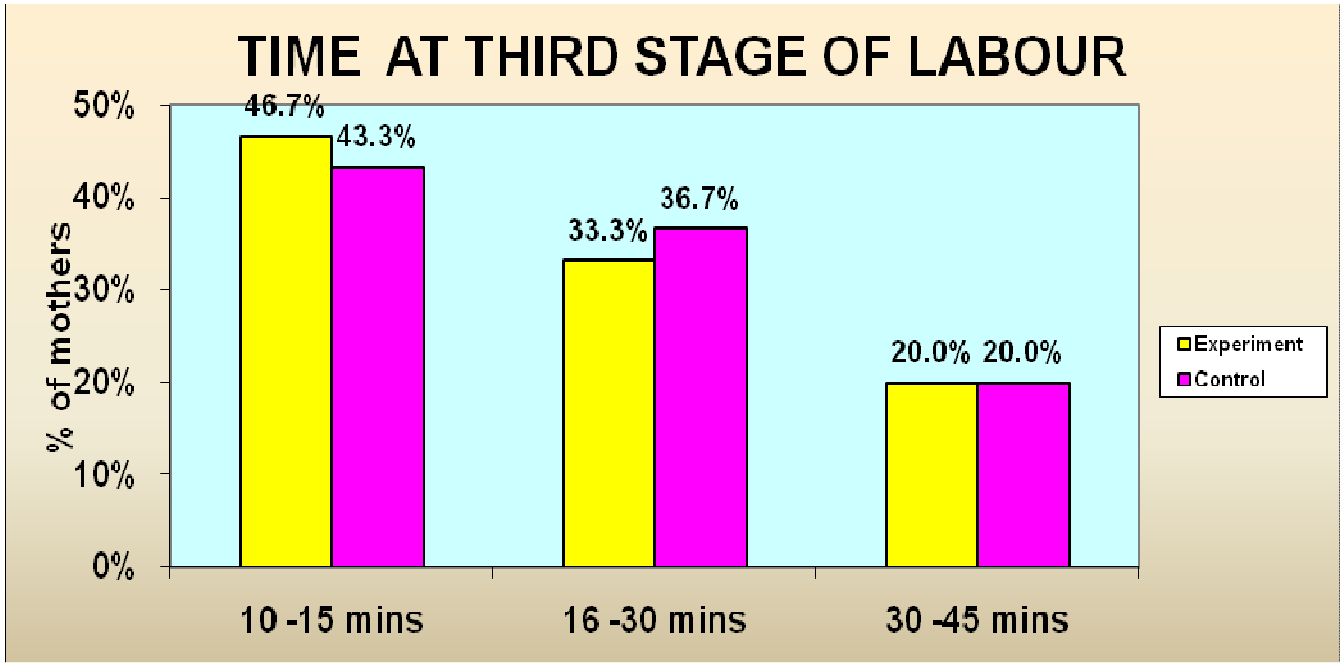


Figure 9. shows the distribution of post natal mothers according to the time of their third stage of labour in experimental and control group

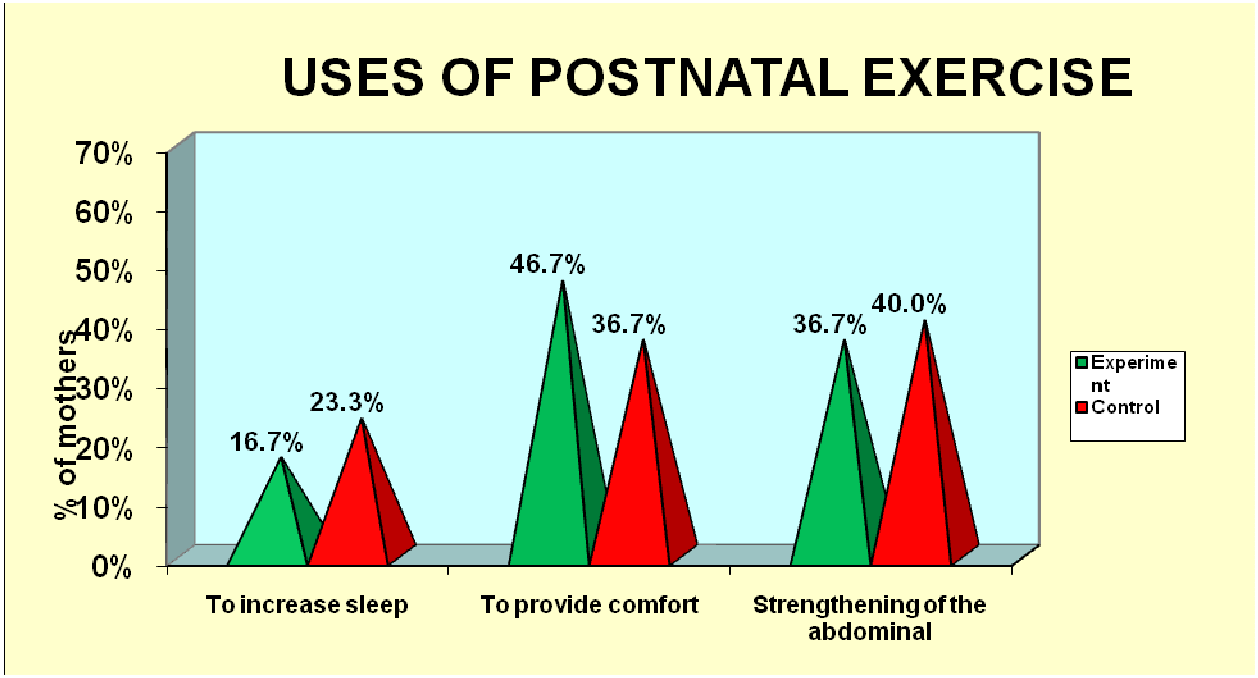


Figure 10. shows the distribution of post natal mothers according to the uses of post natal exercises in experimental and control group

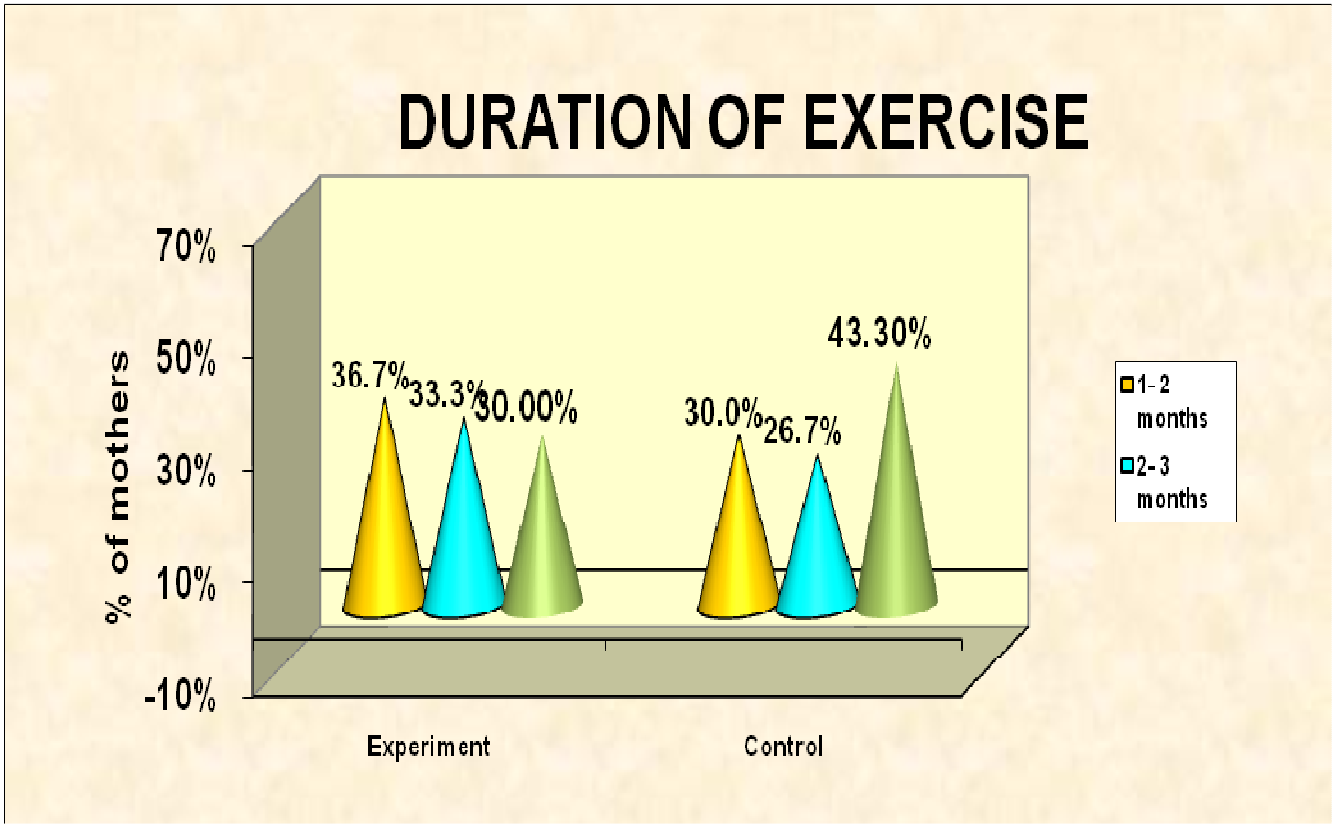


Figure 11. shows the distribution of post natal mothers according to the duration of exercises in experimental and control group

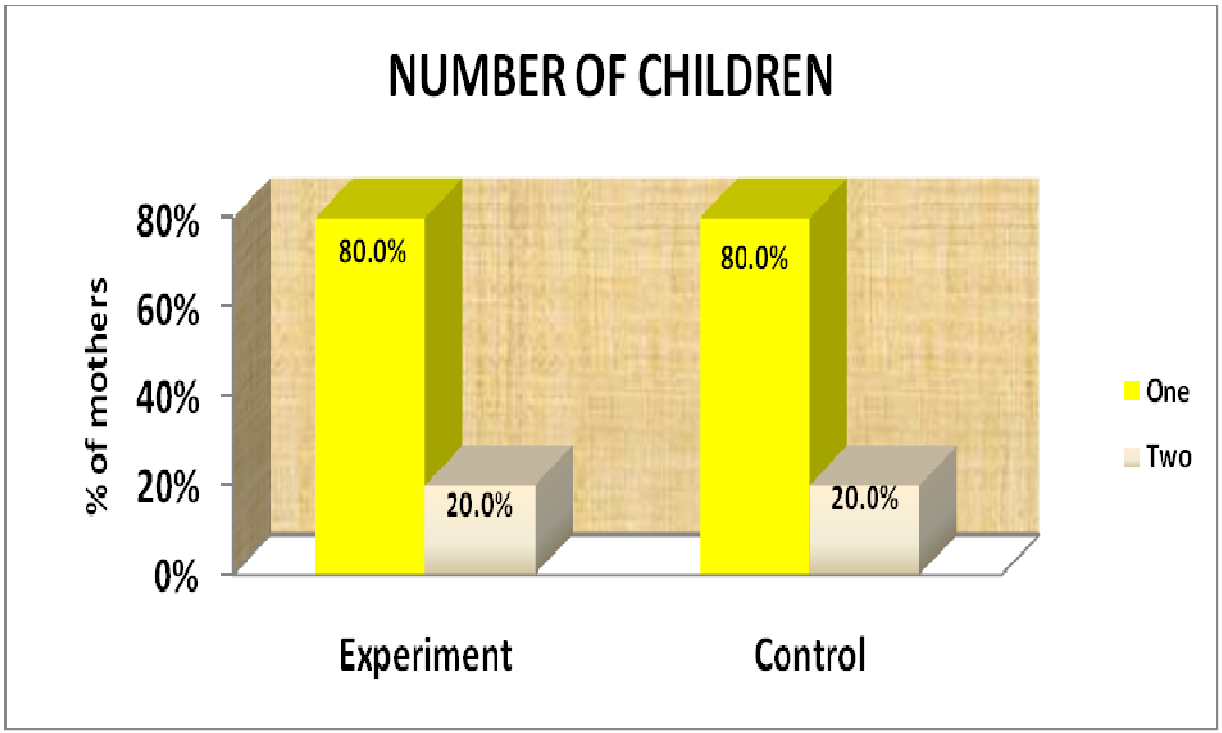


Figure 12. shows the distribution of post natal mothers according to their parity

Section B : Pre Assessment of afterpains and involution of uterus among experimental and control group of post natal mothers.

Table 3: PRETEST LEVEL OF FUNDAL HEIGHT

DESCRIPTION	Experiment		Control		Chi square test
	n	%	N	%	
Good involution	0	0.0%	0	0.0%	$\chi 2=0.74$ p=0.38
Fair involution	4	13.3%	2	6.7%	
Slow involution	26	86.7%	28	93.3%	

* significant at P≤0.05 ** highly significant at P≤0.01 *** very high significant at P≤0.001

Table 3 shows about the assess the pre-test scores of involution of uterus among postnatal mothers before practicing kegel exercise and prone position. It reveals about 86.7% of mothers in experimental group and 93.3% of mothers in control group are having slow involution of uterus in pre test

There is no statistically significant difference between experiment and control group of mothers. Statistical significance was calculated using chi square ($\chi 2=0.74$ p=0.38)

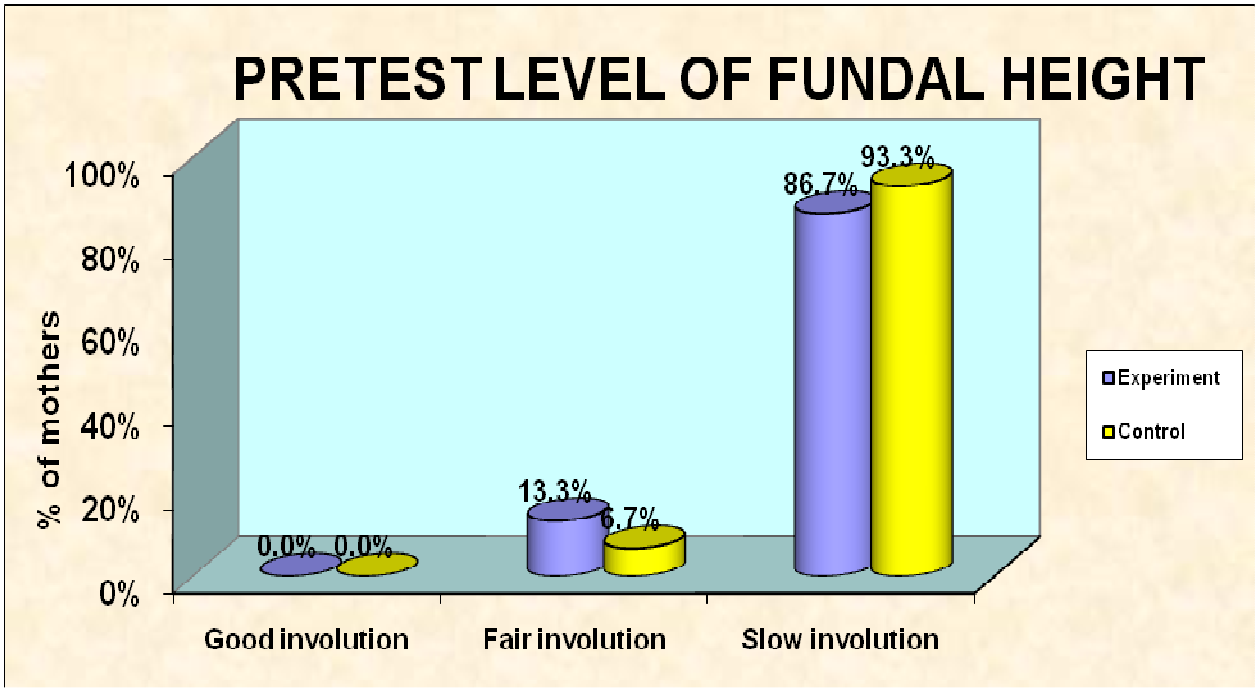


Figure 13. shows that about 86.7% of mothers in experimental group and 93.3% of mothers in control group are having slow involution of uterus in pre test

Table 4: PRETEST LEVEL OF PAIN SCORE

DESCRIPTION	Experiment		Control		Chi square test
	n	%	n	%	
No pain	0	0.0%	0	0.0%	$\chi 2=0.27$ p=0.60
Mild pain	0	0.0%	0	0.0%	
Moderate pain	0	0.0%	0	0.0%	
Severe pain	14	46.7%	12	40.0%	
Excruciating pain	16	53.3%	18	60.0%	

* significant at P≤0.05 ** highly significant at P≤0.01 *** very high significant at P≤0.001

Table 4 assess the pre-test scores of pain level among postnatal mothers before practicing kegel exercise and prone position. It shows that about 53.3% of mothers in experimental group and 60.0% of mothers in control group are having slow Excruciating pain in pre test

There is no statistically significant difference between experiment and control group of mothers. Statistical significance was calculated using chi square ($\chi 2=0.27$ p=0.60)

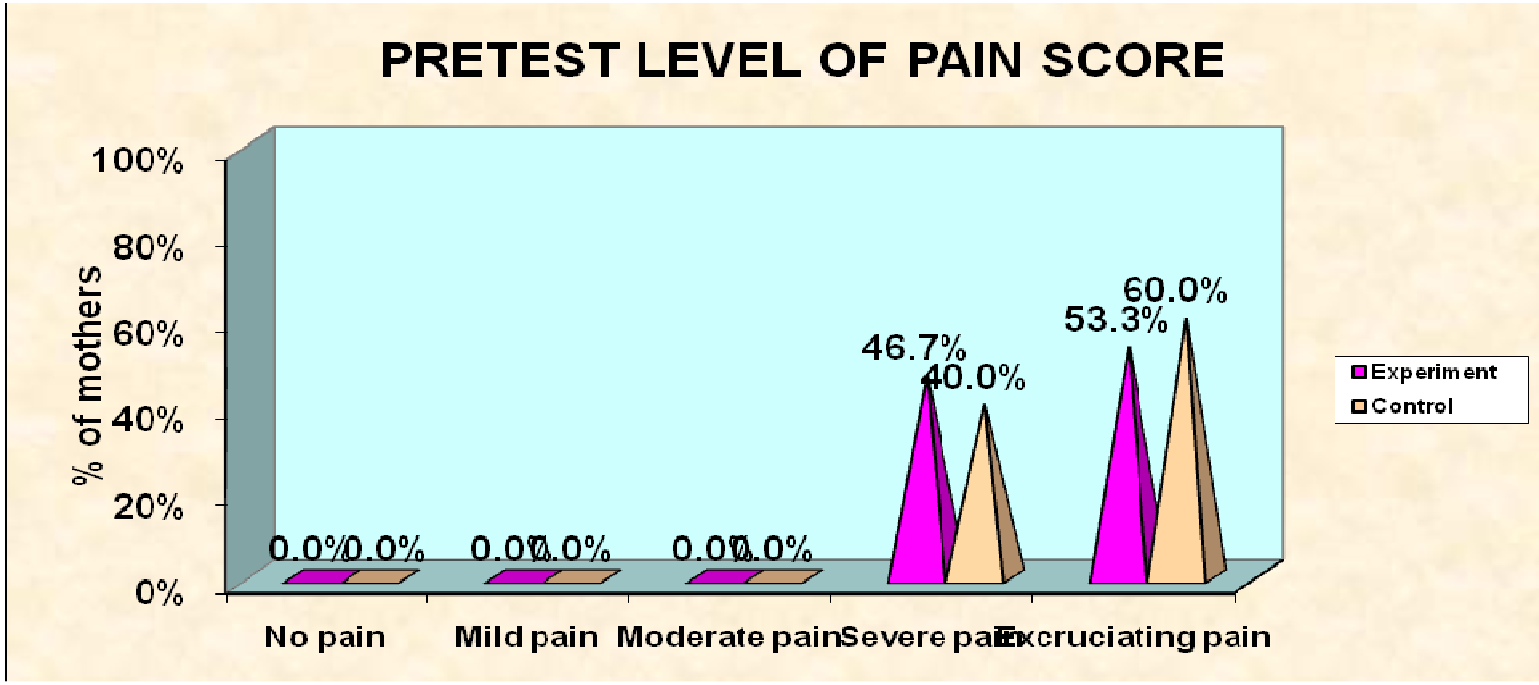


Figure 14. shows that about 53.3% of mothers in experimental group and 60.0% of mothers in control group are having slow Excruciating pain in pre test

Section C : Comparison of pre and post test level of afterpains and involution of uterus among experimental and control group of post natal mothers

Table 5: PRE and POSTTEST LEVEL OF FUNDAL HEIGHT(Experiment)

	DAY1		χ2-test	DAY2		χ2-test	DAY3		χ2-test
	pre	post		pre	post		pre	post	
Good	0	0	χ2=38.57 P=0.001***	0	15	χ2=20.93 P=0.001***	15	26	χ2=9.32 P=0.001***
Fair	4	28		28	15		15	4	
Slow	26	2		2	0		0	0	
Total	30	30		30	30		30	30	

* significant at P≤0.05 ** highly significant at P≤0.01 *** very high significant at P≤0.001

Table 5, reveals about the comparison between pre-assessment and post -assessment of fundal height of the uterus among post natal mothers (Experimental group) who are participating in this study , there is Statistically significant difference between **Day1** (χ2=38.57,P=0.001***), **Day2** (χ2=20.93,P=0.001***), **Day3**(χ2=9.32, P=0.001***) pretest and posttest level of fundal height. Statistical significance was calculated using chi square.

Table 6: PRE and POSTTEST LEVEL OF FUNDAL HEIGHT(Control)

	DAY1		χ2-test	DAY2		χ2-test	DAY3		χ2-test
	pre	post		pre	post		pre	post	
Good	0	0	χ2=21.17 P=0.001***	0	1	χ2=14.08 P=0.001***	1	9	χ2=7.68 P=0.01**
Fair	2	19		19	29		29	21	
Slow	28	11		11			0	0	
Total	30	30		30	30		30	30	

* significant at P≤0.05 ** highly significant at P≤0.01 *** very high significant at P≤0.001

Table 6, reveals about the comparison between pre-assessment and post -assessment of fundal height of the uterus among post natal mothers (Control group) who are participating in this study , there is Statistically significant difference between **Day1,Day2, Day3** pretest and posttest level of fundal height. Statistical significance was calculated using chi square.

Table 7: PRE and POSTTEST LEVEL OF PAIN (Experiment)

	DAY1		χ2-test	DAY2		χ2-test	DAY3		χ2-test
	pre	post		pre	post		pre	post	
No pain	0	0	χ2=27.07	0	0	χ2=34.81	0	16	χ2=33.04
Mild pain	0	0	P=0.001***	0	13	P=0.001***	13	14	P=0.001***
Moderate pain	0	10		10	17		17	0	
Severe pain	14	20		20	0		0	0	
Excruciating pain	16	0		0	0		0	0	
Total	30	30		30	30		30	30	

* significant at P≤0.05 ** highly significant at P≤0.01 *** very high significant at P≤0.001

Statistical significance difference between **Day1(**χ2=27.07P=0.001***) **, Day2(**χ2=34.81,P=0.001***)**, Day3(**χ2=33.04,P=0.001***) pre test and post test level of pain. Statistical significance was calculated using chi square.

Table 8: PRE and POSTTEST LEVEL OF PAIN (Control)

	DAY1		χ2-test	DAY2		χ2-test	DAY3		χ2-test
	Pre	post		pre	post		pre	post	
No pain	0	0	χ2=26.27	0	0	χ2=20.45	0	1	χ2=22.74
Mild pain	0	0	P=0.001***	0	1	P=0.001***	1	14	P=0.001***
Moderate pain	0	3		3	19		19	15	
Severe pain	12	27		27	10		10	0	
Excruciating pain	18	0		0	0		0	0	
Total	30	30		30	30		30	30	

* significant at P≤0.05 ** highly significant at P≤0.01 *** very high significant at P≤0.001

Statistically significant difference between **Day1,Day2, Day3** pretest and posttest level of pain(Control group). Statistical significance was calculated using chi square.

Table 9:COMPARISON OF PRE and POSTTEST LEVEL OF FUNDAL HEIGHT

		Group				Student independent t-test
		Experiment		Control		
		Mean	SD	Mean	SD	
Day1	Pre test	13.68	.36	13.83	.44	t=1.47P=0.15
	Posttest	12.63	.44	13.13	.37	**t=4.77P=0.001*** **
Day2	Pre test	12.63	.44	13.12	.39	**t=4.76P=0.001*** ** **p=7.73P=0.001*** **
	Posttest	11.33	.54	12.42	.54	
Day3	Pre test	11.33	.54	12.38	.61	**t=7.04P=0.001*** ** **t=9.31P=0.001*** **
	Posttest	10.08	.56	11.65	.73	

* significant at P≤0.05 ** highly significant at P≤0.01 *** very high significant at P≤0.001

Table 9 reveals about the mean and standard deviation score of pre and post test level of fundal height between experimental group and control group, Except day 1 pretest there is a statistical significant difference between **experiment and control group fundal height mean score**. Statistical significance was calculated using Student Independent t-test.

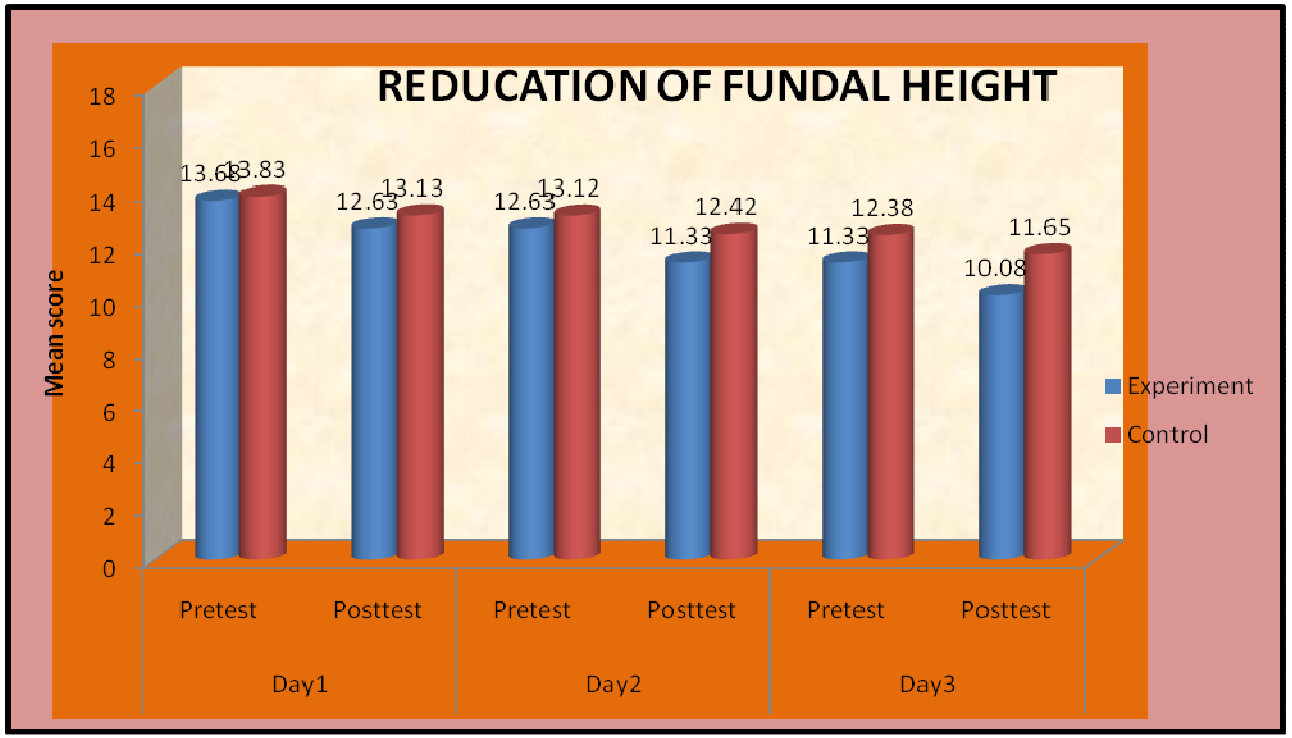


Figure 15. shows that signifacant difference between pre and post test fundal height

Table 10: COMPARISON OF PRE and POSTTEST LEVEL OF PAIN

		Group				Student independent t-test
		Experiment		Control		
		Mean	SD	Mean	SD	
Day1	Pre test	9.33	.88	9.20	1.00	t=0.54P=0.58
	Posttest	7.43	1.52	8.07	1.14	t=1.82P=0.07
Day2	Pre test	7.60	1.38	8.10	1.37	t=1.66P=0.12 **t=4.28P=0.001***
	Posttest	4.33	1.83	6.33	1.79	
Day3	Pre test	4.27	1.84	6.20	1.95	**t=3.94P=0.001*** t=6.32P=0.001***
	Posttest	1.23	1.45	4.13	2.05	

* significant at P≤0.05 ** highly significant at P≤0.01 *** very high significant at P≤0.001

Table 10. reveals about the mean and standard score of afterpains between experimental and control group, in that after " day 2 pretest" there is a statistical significance between **experiment and control group mean Pain score**. Statistical significance was calculated using student independent t test.

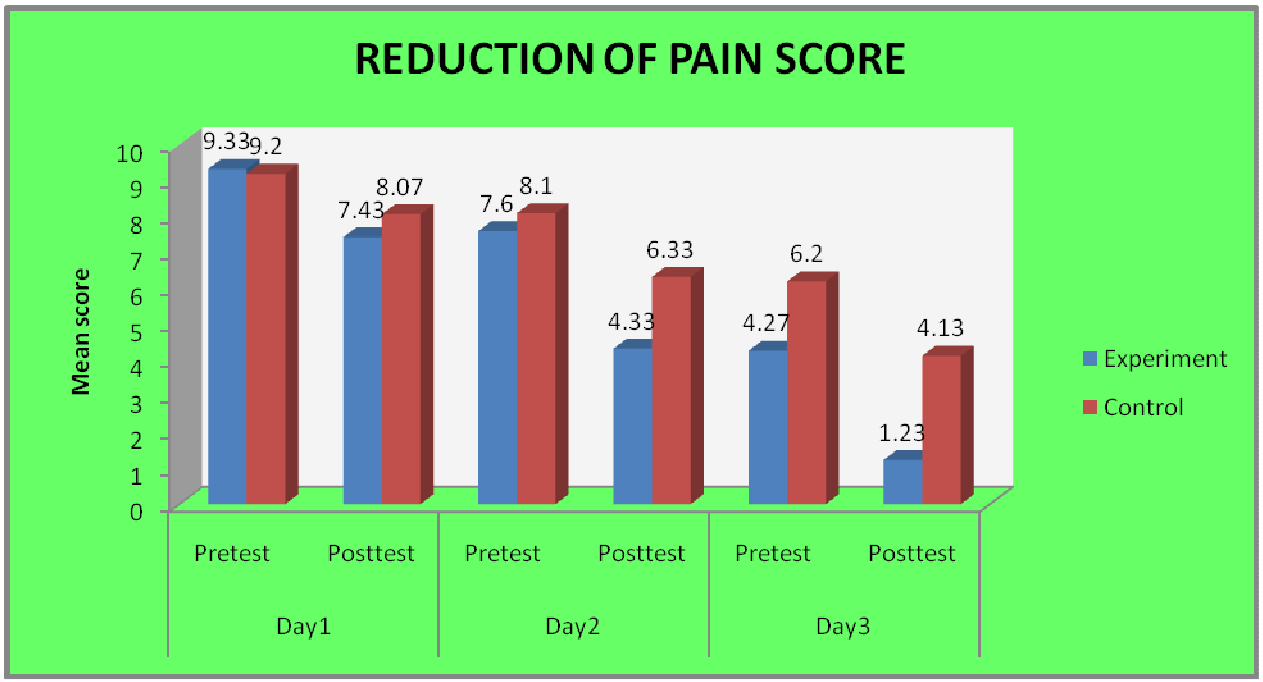


Figure 16. shows that signifacant difference between pre and post test pain score

Section D : Effectiveness of Kegel exercise and Prone position

Table 11: Effectiveness of KEGEL EXERCISE AND PRONE POSITION

		Day1 Pretest	Day3 posttest	Mean difference with 95% Confidence interval	Reduction from base line data
Fundal height	**Experiment**	13.68	10.08	3.59(3.40-3.79)	↓26.2%(24.8% - 27.7%)
	Control	13.83	11.65	2.18(1.92-2.44)	↓15.7%(13.8%-17.6%)
Pain	**Experiment**	9.33	1.23	8.10(7.60-8.59)	↓86.8%(81.4%-92.1%)
	Control	9.20	4.13	5.06(4.22-5.90)	↓55.0%(45.7%-64.1%)

Table no 11 shows the effectiveness of Kegel exercise and prone position on afterpains and involution of uterus between the Experimental and control group among them in experimental group the fundal height reduced 26.2% whereas in control it is 15.7%. In pain score experiment reduced 86.8% whereas in control it is 55.0%. This shows the effectiveness of the study.

Section E : Association of findings with selected demographic and obstetrical variables with after pain and involution of uterus among post natal mothers .

Table 12: Association between level of Fundal height reduction score and mother's demographic variables(Experimental group)

		Level of Fundal height reduction score					
		Below average(<3.59)		Above average(3.59)			
		n	%	n	%	Total	Chi square test
Age	< 20 years	8	72.7%	3	27.3%	11	**χ2=9.72 p=0.01****
	21 - 25 years	4	50.0%	4	50.0%	8	
	26 - 30 years	1	11.1%	8	88.9%	9	
	31 - 35 years	2	100.0%	0	0.0%	2	
Religion	Hindu	12	63.2%	7	36.8%	19	χ2=4.09 p=0.12
	Christian	2	22.2%	7	77.8%	9	
	Muslim	1	50.0%	1	50.0%	2	
Educational Status	Non formal	3	100.0%	0	0.0%	3	**χ2=8.33 p=0.04***
	Primary	7	58.3%	5	41.7%	12	
	Secondary	5	50.0%	5	50.0%	10	
	Graduate	0	0.0%	5	100.0%	5	
Occupation	Housewife	10	47.6%	11	52.4%	21	χ2=4.05 p=0.25
	Cooly	3	100.0%	0	0.0%	3	
	Private company	1	25.0%	3	75.0%	4	
	Others	1	50.0%	1	50.0%	2	
Income	< Rs.2000	5	50.0%	5	50.0%	10	χ2=2.22 p=0.32
	Rs.2000 -3000	10	55.6%	8	44.4%	18	
	Rs.3000-4000			2	100.0%	2	
Type of family	Joint family	7	53.8%	6	46.2%	13	χ2=0.61 p=0.73
	Nuclear family	5	41.7%	7	58.3%	12	
	Extended family	3	60.0%	2	40.0%	5	
Place of living	Rural	4	80.0%	1	20.0%	5	χ2=3.08 p=0.21
	Urban	9	50.0%	9	50.0%	18	
	Suburban	2	28.6%	5	71.4%	7	
Type of marriage	Relative	9	50.0%	9	50.0%	18	χ2=0.00 p=1.00
	Non relative	6	50.0%	6	50.0%	12	

Height	140 -145cm	1	25.0%	3	75.0%	4	$\chi 2$=1.27 p=0.73
	146 -150cm	7	53.8%	6	46.2%	13	
	151 -155cm	4	50.0%	4	50.0%	8	
	>155cm	3	60.0%	2	40.0%	5	
Weight	50 -55 kg	6	46.2%	7	53.8%	13	$\chi 2$=1.88 p=0.76
	56 -65 kg	4	66.7%	2	33.3%	6	
	65 -70 kg	4	57.1%	3	42.9%	7	
	>70 kg	1	25.0%	3	75.0%	4	
Food habits	Vegetarian	2	50.0%	2	50.0%	4	$\chi 2$=0.00 p=1.00
	Non vegetarian	13	50.0%	13	50.0%	26	
Age at menarche	< 12 yrs	2	40.0%	3	60.0%	5	$\chi 2$=0.72 p=0.69
	12 -15 yrs	12	54.5%	10	45.5%	22	
	16 -19 yrs	1	33.3%	2	66.7%	3	

- significant at P≤0.05 ** highly significant at P≤0.01 *** very high significant at P≤0.001

Table 12 shows the association between level of pain reduction score and mother's demographic variables in experimental group. There is a statistical significance between age of the mother and reduction of fundal height ($\chi 2$=9.72 p=0.01**) specifically in mothers between 26-30 years ,and also there is a marked reduction of fundal height among educated mothers ($\chi 2$=8.33 p=0.04*) who are graduates.

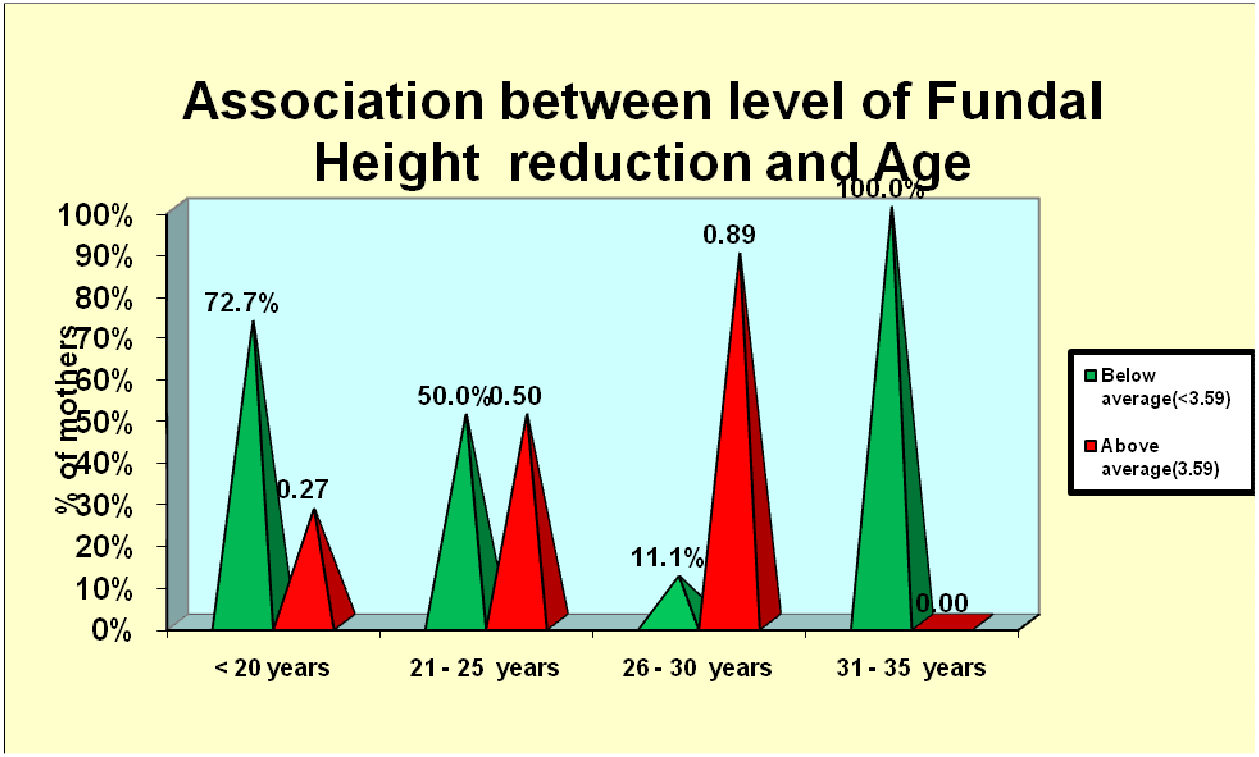


Figure 17. shows that there is statistical significance in fundal height reduction score and mother's Age between 26-30 years ($\chi 2=9.72$ p=0.01) - Experimental group**

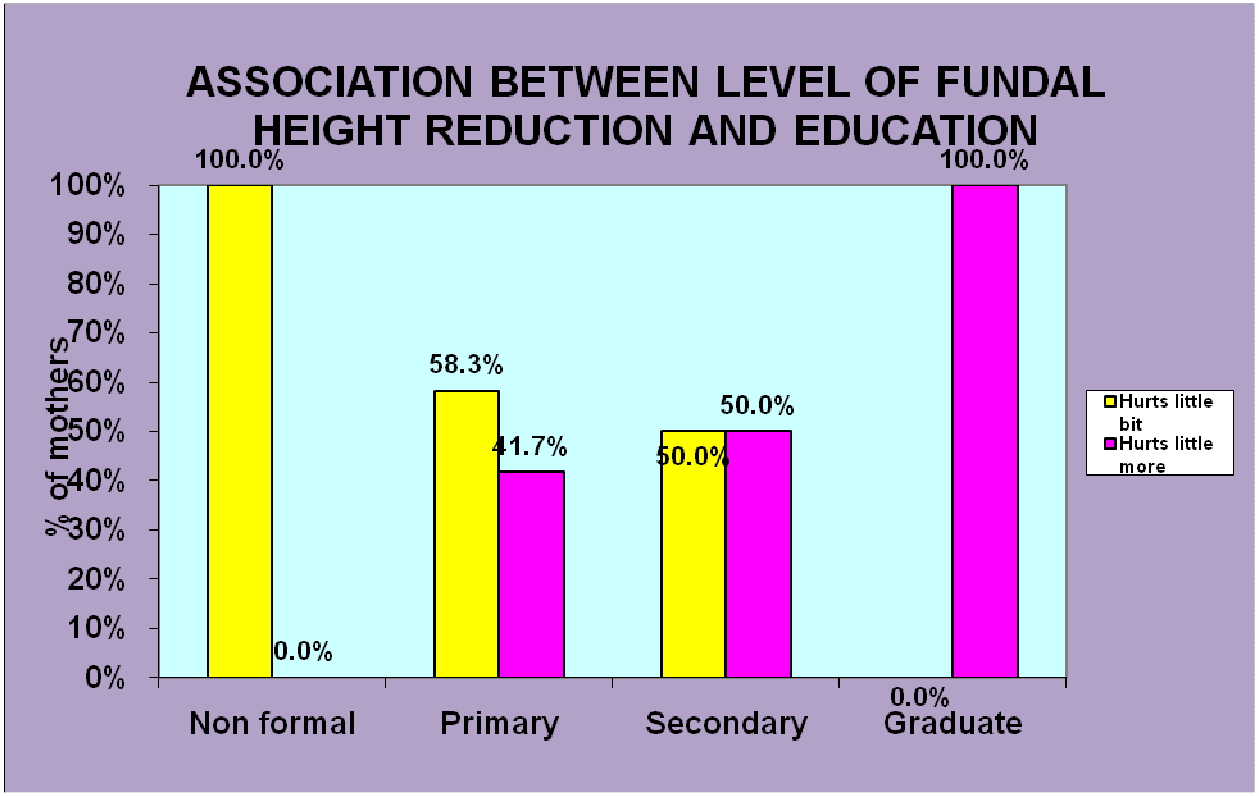


Figure 18. shows there is a statistical significance between fundal height reduction score and mother's education status(Graduates) (χ2=8.33 p=0.04*) –Experimental group

Table 13: Association between level of Fundal height reduction score and mother's obstetrical variables(experiment)

		Level of Fundal height reduction score				Total	Chi square test
		Below average(<3.59)		Above average(>3.59)			
		n	%	n	%		
Time of 1st stage of delivery	6 -12 yrs	8	53.3%	7	46.7%	15	$\chi2$=0.72 p=0.69
	13 -14 yrs	3	30.0%	7	70.0%	10	
	24 hrs	4	80.0%	1	20.0%	5	
episiotomy	Yes	9	60.0%	6	40.0%	15	$\chi2$=0.72 p=0.69
	No	6	40.0%	9	60.0%	15	
Time of 3rd stage of labour	10 -15 mins	8	57.1%	6	42.9%	14	$\chi2$=0.72 p=0.69
	16 -30 mins	4	40.0%	6	60.0%	10	
	30 -45 mins	3	50.0%	3	50.0%	6	
When the postnatal exercise has to be started	Immediately after delivery	8	40.0%	12	60.0%	20	$\chi2$=0.72 p=0.69
	First day of delivery	6	75.0%	2	25.0%	8	
	Third day of delivery	1	50.0%	1	50.0%	2	
How long the postnatal exercise can be done	1- 2 months	5	45.5%	6	54.5%	11	$\chi2$=0.72 p=0.69
	2- 3 months	5	50.0%	5	50.0%	10	
	6 months	5	55.6%	4	44.4%	9	
Uses of postnatal exercise	To increase sleep	4	80.0%	1	20.0%	5	$\chi2$=0.72 p=0.69
	To provide comfort	6	42.9%	8	57.1%	14	
	Strengthening of the abdominal	5	45.5%	6	54.5%	11	
Colour of bleeding in first three days after delivery	Red	15	50.0%	15	50.0%	30	$\chi2$=0.72 p=0.69
How often you will change pad in a day	Four	9	45.0%	11	55.0%	20	$\chi2$=0.72 p=0.69
	Five	6	60.0%	4	40.0%	10	
Gravida	First baby	5	45.5%	6	54.5%	11	$\chi2$=0.72 p=0.69
	Second baby	10	52.6%	9	47.4%	19	
Para	First baby	11	45.8%	13	54.2%	24	$\chi2$=0.72 p=0.69
	Second baby	4	66.7%	2	33.3%	6	
Number of live children	One	11	45.8%	13	54.2%	24	$\chi2$=0.72 p=0.69
	Two	4	66.7%	2	33.3%	6	

* significant at P≤0.05 ** highly significant at P≤0.01 *** very high significant at P≤0.001

Table 13 shows the association between level of fundal height reduction score and mother's obstetrical variables in experimental group. None of the variables are significant.

Table 14: Association between level of Fundal height reduction score and mother's demographic variables(Control)

		Level of Fundal height reduction score					Chi square test
		Below average(<3.59)		Above average(3.59)		Total	
		n	%	n	%		
Age	> 20 years	4	40.0%	6	60.0%	10	$\chi 2=0.80$ p=0.84
	21 - 25 years	6	60.0%	4	40.0%	10	
	26 - 30 years	4	50.0%	4	50.0%	8	
	31 - 35 years	1	50.0%	1	50.0%	2	
Religion	Hindu	11	68.8%	5	31.3%	16	$\chi 2=5.20$ p=0.07
	Christian	3	25.0%	9	75.0%	12	
	Muslim	1	50.0%	1	50.0%	2	
Educational Status	Non formal			3	100.0%	3	$\chi 2=3.74$ p=0.29
	Primary	7	53.8%	6	46.2%	13	
	Secondary	4	66.7%	2	33.3%	6	
	Graduate	4	50.0%	4	50.0%	8	
Occupation	Housewife	12	57.1%	9	42.9%	21	$\chi 2=3.56$ p=0.31
	Cooly	1	100.0%			1	
	Private company	1	20.0%	4	80.0%	5	
	Others	1	33.3%	2	66.7%	3	
Income	< Rs.2000	6	50.0%	6	50.0%	12	$\chi 2=0.0$ p=1.0
	Rs.2000 - 3000	7	50.0%	7	50.0%	14	
	Rs.3000-4000	2	50.0%	2	50.0%	4	
Type of family	Joint family	7	63.6%	4	36.4%	11	$\chi 2=3.48$ p=0.17
	Nuclear family	5	33.3%	10	66.7%	15	
	Extended family	3	75.0%	1	25.0%	4	
Place of living	Rural	4	44.4%	5	55.6%	9	$\chi 2=0.25$ p=0.88
	Urban	7	50.0%	7	50.0%	14	
	Suburban	4	57.1%	3	42.9%	7	
Type of marriage	Relative	8	61.5%	5	38.5%	13	$\chi 2=1.22$ p=0.29
	Non relative	7	41.2%	10	58.8%	17	

Height	140 -145cm			3	100.0%	3	
	146 -150cm	7	46.7%	8	53.3%	15	$\chi 2=6.17$ p=0.10
	151 -155cm	5	55.6%	4	44.4%	9	
	>155cm	3	100.0%			3	
Weight	50 -55 kg	8	50.0%	8	50.0%	16	
	56 -65 kg	4	57.1%	3	42.9%	7	$\chi 2=3.94$ p=0.26
	65 -70 kg	1	20.0%	4	80.0%	5	
	>70 kg	2	100.0%			2	
Food habits	Vegetarian	1	33.3%	2	66.7%	3	$\chi 2=0.37$ p=0.54
	Non vegetarian	14	51.9%	13	48.1%	27	
Age at menarche	< 12 yrs	1	33.3%	2	66.7%	3	$\chi 2=2.32$ p=0.31
	12 -15 yrs	10	45.5%	12	54.5%	22	
	16 -19 yrs	4	80.0%	1	20.0%	5	

* significant at P≤0.05 ** highly significant at P≤0.01 *** very high significant at P≤0.001

Table 14 shows the association between level of fundal height reduction score and demographic variables among control group. None of the variables are significant.

Table 15: Association between level of Fundal height reduction score and mother's obstetrical variables(control)

		Level of Fundal height reduction score					
		Below average(<3.59)		Above average(>3.59)			
		n	%	n	%	Total	Chi square test
Time of 1st stage of delivery	6 -12 yrs	6	60.0%	4	40.0%	10	$\chi2$=0.60 p=0.74
	13 -14 yrs	5	45.5%	6	54.5%	11	
	24 hrs	4	44.4%	5	55.6%	9	
episiotomy	Yes	10	47.6%	11	52.4%	21	$\chi2$=0.15 p=0.69
	No	5	55.6%	4	44.4%	9	
Time of 3rd stage of labour	10 -15 mins	7	53.8%	6	46.2%	13	$\chi2$=1.56 p=0.45
	16 -30 mins	4	36.4%	7	63.6%	11	
	30 -45 mins	4	66.7%	2	33.3%	6	
When the postnatal exercise has to be started	Immediately after delivery	8	53.3%	7	46.7%	15	$\chi2$=0.72 p=0.69
	First day of delivery	5	41.7%	7	58.3%	12	
	Thirdday of delivery	2	66.7%	1	33.3%	3	
How long the postnatal exercise can be done	1- 2 months	3	33.3%	6	66.7%	9	$\chi2$=1.69 p=0.42
	2- 3 months	4	50.0%	4	50.0%	8	
	6 months	8	61.5%	5	38.5%	13	
Uses of postnatal exercise	To increase sleep	5	71.4%	2	28.6%	7	$\chi2$=2.10 p=0.34
	To provide comfort	4	36.4%	7	63.6%	11	
	Strengthening of the abdominal	6	50.0%	6	50.0%	12	
Colour of bleeding in first three days after delivery	Red	15	50.0%	15	50.0%	30	$\chi2$=0.72 p=0.69
How often you will change pad in a day	Four	7	43.8%	9	56.3%	16	$\chi2$=0.53 p=0.46
	Five	8	57.1%	6	42.9%	14	
Gravida	First baby	10	71.4%	4	28.6%	14	$\chi2$=4.82p=0.03
	Second baby	5	31.3%	11	68.8%	16	
Para	First baby	13	54.2%	11	45.8%	24	$\chi2$=0.83p=0.36
	Second baby	2	33.3%	4	66.7%	6	
Number of live children	One	13	54.2%	11	45.8%	24	$\chi2$=0.83p=0.36
	Two	2	33.3%	4	66.7%	6	

Table 15 shows the association between level of fundal height reduction score and obstetrical variables. None of the variables are significant.

Table 16: Association between level of pain reduction score and mother's demographic variables(Experiment)

		Level of pain reduction score				Total	Chi square test
		Below average(<8.10)		Above average(8.10)			
		n	%	n	%		
Age	< 20 years	9	81.8%	2	18.2%	11	**χ2=7.79p=0.05***
	21 - 25 years	2	25.0%	6	75.0%	8	
	26 - 30 years	3	33.3%	6	66.7%	9	
	31 - 35 years	1	50.0%	1	50.0%	2	
Religion	Hindu	12	63.2%	7	36.8%	19	χ2=4.31 p=0.11
	Christian	3	33.3%	6	66.7%	9	
	Muslim			2	100.0%	2	
Educational Status	Non formal			3	100.0%	3	χ2=3.53 p=0.31
	Primary	7	58.3%	5	41.7%	12	
	Secondary	5	50.0%	5	50.0%	10	
	Graduate	3	60.0%	2	40.0%	5	
Occupation	Housewife	10	47.6%	11	52.4%	21	χ2=0.38 p=0.94
	Cooly	2	66.7%	1	33.3%	3	
	Private company	2	50.0%	2	50.0%	4	
	Others	1	50.0%	1	50.0%	2	
Income	< Rs.2000	5	50.0%	5	50.0%	10	χ2=0.00 p=1.00
	Rs.2000 - 3000	9	50.0%	9	50.0%	18	
	Rs.3000-4000	1	50.0%	1	50.0%	2	
Type of family	Joint family	6	46.2%	7	53.8%	13	χ2=3.21 p=0.20
	Nuclear family	8	66.7%	4	33.3%	12	
	Extended family	1	20.0%	4	80.0%	5	

Place of living	Rural	3	60.0%	2	40.0%	5	$\chi 2=0.56$ p=0.75
	Urban	8	44.4%	10	55.6%	18	
	Suburban	4	57.1%	3	42.9%	7	
Type of marriage	Relative	8	44.4%	10	55.6%	18	$\chi 2=0.55$ p=0.45
	Non relative	7	58.3%	5	41.7%	12	
Height	140 -145cm	1	25.0%	3	75.0%	4	$\chi 2=3.33$ p=0.35
	146 -150cm	7	53.8%	6	46.2%	13	
	151 -155cm	3	37.5%	5	62.5%	8	
	>155cm	4	80.0%	1	20.0%	5	
Weight	50 -55 kg	6	46.2%	7	53.8%	13	$\chi 2=0.88$ p=0.82
	56 -65 kg	4	66.7%	2	33.3%	6	
	65 -70 kg	3	42.9%	4	57.1%	7	
	>70 kg	2	50.0%	2	50.0%	4	
Food habits	Vegetarian	1	25.0%	3	75.0%	4	$\chi 2=1.15$p=0.28
	Non vegetarian	14	53.8%	12	46.2%	26	
Age at menarche	< 12 yrs	4	80.0%	1	20.0%	5	**$\chi 2=6.43$ p=0.04***
	12 -15 yrs	8	36.4%	14	63.6%	22	
	16 -19 yrs	3	100.0%	0	0.0%	3	

* significant at P≤0.05 ** highly significant at P≤0.01 *** very high significant at P≤0.001

Table 16 shows the association between level of pain reduction score and mothers demographic variables in experimental group. There is a statistical significance between pain reduction and mother's age between 26-30 yrs, (**$\chi 2=7.79$p=0.05*)** ,the mother's who attained menarche at the age between 12-15yrs were also having a marked reduction in pain (**$\chi 2=6.43$ p=0.04***) statistical value is calculated by using Chi square test.

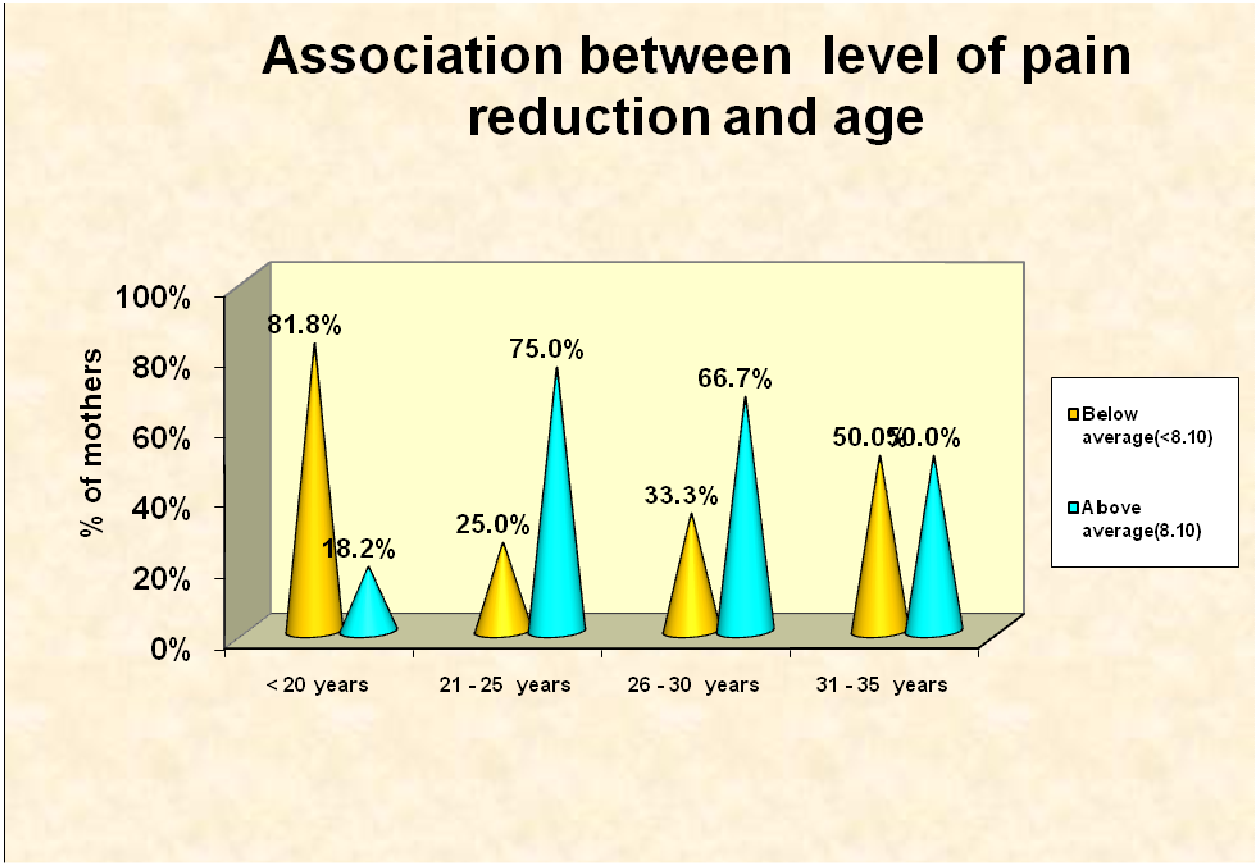


Figure 19 reveals that majority of the mothers (26-30 years) have high pain reduction score (66.7%)in experimental group

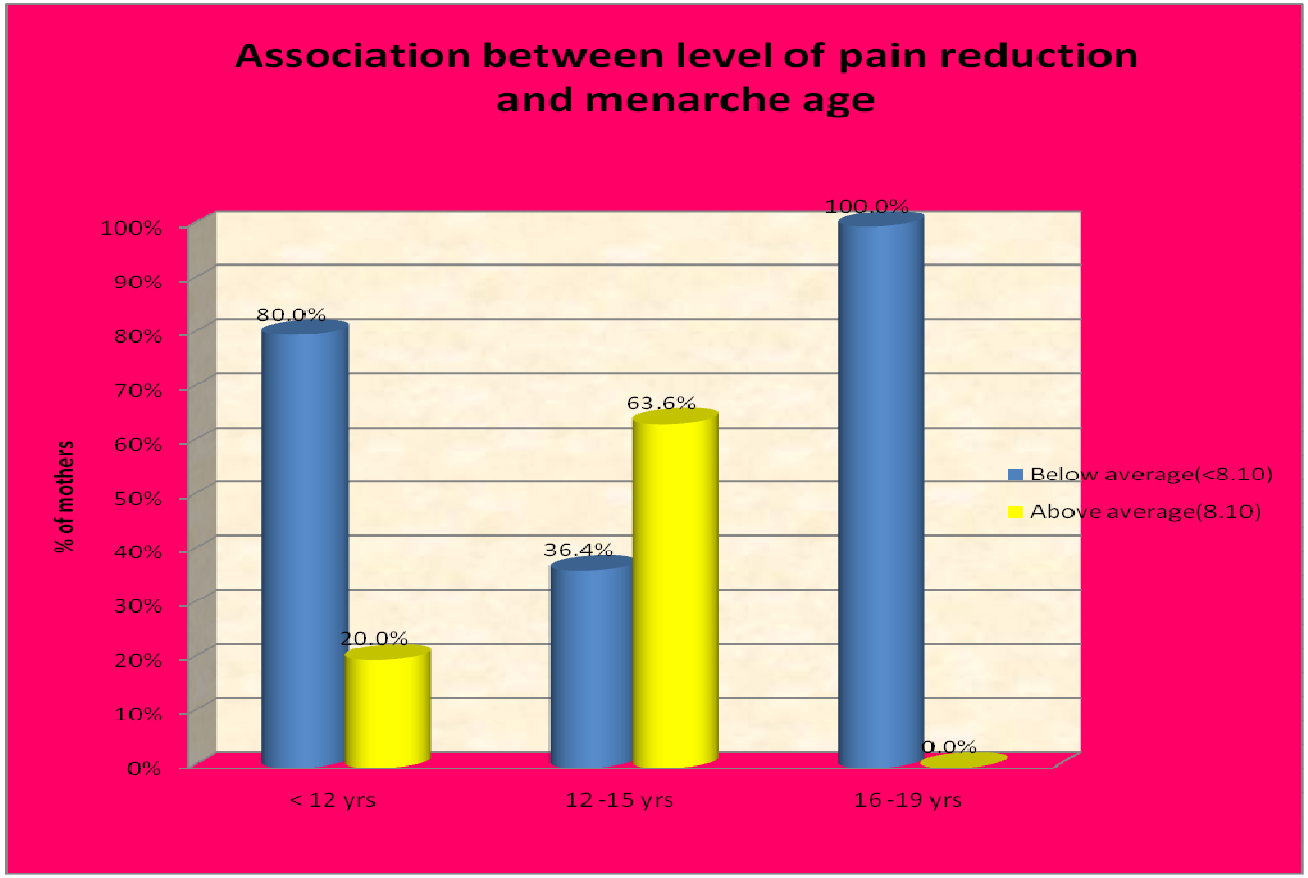


Figure 20 shows majority of the mothers (63.6%) had reduction in pain score had attained menarche at the age between 12-15 years

Table 17: Association between level of pain reduction score and mother's obstetrical variables(experiment)

		Level of pain reduction score					
		Below average(<8.10)		Above average(>8.10)			
		n	%	n	%	Total	Chi square test
Time of 1st stage of delivery	6 -12 yrs	7	46.7%	8	53.3%	15	$\chi2$=0.66 p=0.71
	13 -14 yrs	6	60.0%	4	40.0%	10	
	24 hrs	2	40.0%	3	60.0%	5	
Episiotomy	Yes	10	66.7%	5	33.3%	15	$\chi2$=0.68p=0.71
	No	5	33.3%	10	66.7%	15	
Time of 3rd stage of labour	10 -15 mins	6	42.9%	8	57.1%	14	$\chi2$=2.80 p=0.24
	16 -30 mins	6	60.0%	4	40.0%	10	
	30 -45 mins	3	50.0%	3	50.0%	6	
When the postnatal exercise has to be started	Immediately after delivery	8	40.0%	12	60.0%	20	$\chi2$=0.60p=0.74
	First day of delivery	6	75.0%	2	25.0%	8	
	Third day of delivery	1	50.0%	1	50.0%	2	
How long the postnatal exercise can be done	1- 2 months	6	54.5%	5	45.5%	11	$\chi2$=3.61 p=0.16
	2- 3 months	4	40.0%	6	60.0%	10	
	6 months	5	55.6%	4	44.4%	9	
Uses of postnatal exercise	To increase sleep	3	60.0%	2	40.0%	5	$\chi2$=0.72 p=0.69
	To provide comfort	9	64.3%	5	35.7%	14	
	Strengthening of the abdominal	3	27.3%	8	72.7%	11	
Colour of bleeding in first three days after delivery	Red	15	50.0%	15	50.0%	30	$\chi2$=0.00 p=1.00
How often you will change pad in a day	Four	9	45.0%	11	55.0%	20	$\chi2$=0.60 p=0.41
	Five	6	60.0%	4	40.0%	10	
Gravida	First baby	5	45.5%	6	54.5%	11	$\chi2$=0.14p=0.70
	Second baby	10	52.6%	9	47.4%	19	
Para	First baby	11	45.8%	13	54.2%	24	$\chi2$=0.83 p=0.36
	Second baby	4	66.7%	2	33.3%	6	
Numbe of live children	One	11	45.8%	13	54.2%	24	$\chi2$=0.83 p=0.36
	Two	4	66.7%	2	33.3%	6	

Table 17 shows the association between level of pain reduction score and obstetrical variables. None of the variables are significant.

Table 18: Association between level of pain reduction score and mothers demographic variables(Control)

		Level of pain reduction score				Total	Chi square test
		Below average(<5.06)		Above average(5.06)			
		n	%	n	%		
Age	> 20 years	6	60.0%	4	40.0%	10	$\chi 2$=2.50p=0.47
	21 - 25 years	3	30.0%	7	70.0%	10	
	26 - 30 years	5	62.5%	3	37.5%	8	
	31 - 35 years	1	50.0%	1	50.0%	2	
Religion	Hindu	9	56.3%	7	43.8%	16	$\chi 2$=0.58 p=0.74
	Christian	5	41.7%	7	58.3%	12	
	Muslim	1	50.0%	1	50.0%	2	
Educational Status	Non formal	1	33.3%	2	66.7%	3	$\chi 2$=4.25p=0.23
	Primary	9	69.2%	4	30.8%	13	
	Secondary	3	50.0%	3	50.0%	6	
	Graduate	2	25.0%	6	75.0%	8	
Occupation	Housewife	11	52.4%	10	47.6%	21	$\chi 2$=1.58 p=0.66
	Cooly	1	100.0%			1	
	Private company	2	40.0%	3	60.0%	5	
	Others	1	33.3%	2	66.7%	3	
Income	< Rs.2000	7	58.3%	5	41.7%	12	$\chi 2$=1.33 p=0.51
	Rs.2000 - 3000	7	50.0%	7	50.0%	14	
	Rs.3000-4000	1	25.0%	3	75.0%	4	
Type of family	Joint family	6	54.5%	5	45.5%	11	$\chi 2$=1.69p=0.41
	Nuclear family	6	40.0%	9	60.0%	15	
	Extended family	3	75.0%	1	25.0%	4	
Place of living	Rural	5	55.6%	4	44.4%	9	$\chi 2$=0.56 p=0.75
	Urban	6	42.9%	8	57.1%	14	
	Suburban	4	57.1%	3	42.9%	7	

Type of marriage	Relative	8	61.5%	5	38.5%	13	χ^2=1.22 p=0.26
	Non relative	7	41.2%	10	58.8%	17	
Height	140 -145cm	1	33.3%	2	66.7%	3	χ^2=2.26 p=0.52
	146 -150cm	9	60.0%	6	40.0%	15	
	151 -155cm	3	33.3%	6	66.7%	9	
	>155cm	2	66.7%	1	33.3%	3	
Weight	50 -55 kg	8	50.0%	8	50.0%	16	χ^2=2.34 p=0.50
	56 -65 kg	3	42.9%	4	57.1%	7	
	65 -70 kg	2	40.0%	3	60.0%	5	
	>70 kg	2	100.0%			2	
Food habits	Vegetarian	1	33.3%	2	66.7%	3	χ^2=0.37p=054
	Non vegetarian	14	51.9%	13	48.1%	27	
Age at menarche	< 12 yrs	2	66.7%	1	33.3%	3	χ^2=2.86p=0.23
	12 -15 yrs	9	40.9%	13	59.1%	22	
	16 -19 yrs	4	80.0%	1	20.0%	5	

* significant at P≤0.05 ** highly significant at P≤0.01 *** very high significant at P≤0.001

Table 18 shows the association between level of pain reduction score and children demographic variables. None of the variable are significant.

Table 19: Association between level of pain reduction score and mothers obstetrical variables(experimental group)

		Level of pain reduction score				Total	Chi square test
		Below average(<5.06)		Above average(>5.06)			
		n	%	n	%		
Time of 1st stage of delivery	6 -12 yrs	5	50.0%	5	50.0%	10	$\chi 2$=0.20 p=0.90
	13 -14 yrs	5	45.5%	6	54.5%	11	
	24 hrs	5	55.6%	4	44.4%	9	
episiotomy	Yes	12	57.1%	9	42.9%	21	$\chi 2$=1.42p=0.22
	No	3	33.3%	6	66.7%	9	
Time of 3rd stage of labour	10 -15 mins	6	46.2%	7	53.8%	13	$\chi 2$=0.83 p=0.65
	16 -30 mins	5	45.5%	6	54.5%	11	
	30 -45 mins	4	66.7%	2	33.3%	6	
When the postnatal exercise has to be started	Immediately after delivery	8	53.3%	7	46.7%	15	$\chi 2$=0.40p=0.81
	First day of delivery	6	50.0%	6	50.0%	12	
	Third day of delivery	1	33.3%	2	66.7%	3	
How long the postnatal exercise can be done	1- 2 months	2	22.2%	7	77.8%	9	$\chi 2$=3.97 p=0.13
	2- 3 months	5	62.5%	3	37.5%	8	
	6 months	8	61.5%	5	38.5%	13	
Uses of postnatal exercise	To increase sleep	5	71.4%	2	28.6%	7	$\chi 2$=1.72 p=0.42
	To provide comfort	5	45.5%	6	54.5%	11	
	Strengthening of the abdominal	5	41.7%	7	58.3%	12	
Colour of bleeding in first three days after delivery	Red	15	50.0%	15	50.0%	30	$\chi 2$=0.00 p=1.00

How often you will change pad in a day	Four	8	50.0%	8	50.0%	16	$\chi 2$=0.00 p=1.00
	Five	7	50.0%	7	50.0%	14	
Gravida	First baby	7	50.0%	7	50.0%	14	$\chi 2$=0.00 p=1.00
	Second baby	8	50.0%	8	50.0%	16	
Para	First baby	13	54.2%	11	45.8%	24	$\chi 2$=0.83 p=0.36
	Second baby	2	33.3%	4	66.7%	6	
Number of live children	One	13	54.2%	11	45.8%	24	$\chi 2$=0.83 p=0.36
	Two	2	33.3%	4	66.7%	6	

* significant at P≤0.05 ** highly significant at P≤0.01 *** very high significant at P≤0.001

Table 19 shows the association between level of pain reduction score and obstetrical variables. None of the variables are significant.

CHAPTRE V

DISCUSSION

The study described the effectiveness of kegel exercise and prone position among post natal mothers on after pains and involution of uterus among postnatal mothers at the Institute of Obstetrics and Gynaecology Government Hospital for Women and Children, Egmore Chennai-600 008.

The sample was 60 postnatal mothers. Out of which, 30 will be experimental group and 30 in control group. Samples were selected by using non probability purposive sampling technique. control group-level of afterpains and involution of uterus will be assessed every day morning and evening for 3days through numerical pain rating scale and clinical proforma. In experimental group –Pre intervention pain score and involution of uterus will be assessed among postnatal mothers through numerical pain rating scale and measuring the fundal height each day morning before giving interventions. In experimental group process to making the subjects to do kegel exercise for 10seconds for 3 times a day , 10 repetitions each time for three days then after finishing the 10 repetition of kegel exercise in each time same post natal mothers made to lie in prone position for 3-5 minutes for 3times a day at 30 minutes interval , 3repetition each time for three days. The post intervention pain score and involution of uterus will be assessed by the same tools each day.

The data consists of three sections, first section contains the demographic profile, the second section contains the Numerical pain assessment scale, and the third section consists of profoma to assess the involution of uterus. Data analysis and interpretation were done by using frequencies, percentage, mean and standard deviation, chisquare test, student's independent t-test.

The result of the study were discussed based on the objectives and the following supportive studies.

According to the demographic information of post natal mothers. Age of post natal mothers in experimental group11(36.7%) belonged to < 20 years age group while in control group 10 (33.3%) and also 10 (33.3%) in 21 – 25 years age in control group. With record to Religion majority belonged to Hindu 19 (63.3%) in experimental group and 16 (53.3%). Mostly post natal mothers are educated at the level of primary school in both the experimental 12 (40.0%) and 13 (43.3 %) in control group. Most of women's are house wife in experimental group 21 (70%) and also same 21 (70%) in control group. Monthly income of the majority of post natal mothers ranges from RS 2000 to 3000 experimental group 18(60.0%) and control group 14 (46.7%). Majority of the women come from joined family. In experimental 13 (43.3%) and control group 15 (50.0).

Most of the women came from urban experimental group 18 (60.0%) and control group14 (46.7%). Majority of the women close relative marriage in experimental group 18 (60.0%).In control group17 (56.7%) Most of the women are non relative marriage. Most of the women height 146 to 150 cm in both the experimental group 13 (43.3%) and control group 15 (50.0%) . Most of the women weight 50 to 55 kg in both group. In experimental group 13 (43.3%) And control group 16 (53.3%). Their diet pattern mostly were non vegetarian, in experimental group 26(86.7%) and control group 27 (90.0%).

Most of the women age at the menarche 12 to 15 years, in experimental group 22(73.3%) and control group 22 (73.3%).

This study was supported by ***Declercq ER, Sakala C(2005)*** A descriptive study was conducted to determine women's experience of afterpains in United States. The sample of 300 postnatal women were selected

by stratified sampling method. The study results revealed that afterbirth pain is one of the most common obstetrical problems in most of the women.

The first objective is to assess the pre-test scores of after pains and involution of uterus among postnatal mothers in experimental and control group.

The investigator faced that about 53.3% of mothers in experimental group and 60.0% of mothers in control group are having slow Excruciating pain in pre test, and about 86.7% of mothers in experimental group and 93.3% of mothers in control group are having slow involution of uterus in pre test.

The present study was supported by ***Karpagavalli G, Judie A (2008)*** An evaluative study was conducted to find the effectiveness of nursing interventions in reducing after-pains among postnatal mothers in Chennai, and ***Wyman JF,Choi SC,Harkins sw, et al (2005)***A correlational study was conducted to assess incidence of women reporting after birth pains after childbirth at London..

The second objective is to determine the effectiveness of Kegel exercise and prone position on afterpains and involution of uterus among postnatal mothers in experimental group.

The investigator discussed about the effectiveness of Kegel exercise and prone position on afterpains and involution of uterus between the Experimental and control group . among them in experimental group the fundal height reduced 26.2% whereas in control it is 15.7%. In pain score experiment reduced 86.8% whereas in control it is 55.0%. This shows the effectiveness of the study.

This study was supported by ***Soltero Gonzalez (2008)*** conducted a study to know the result of pelvic floor muscle training program in the treatment of post natal mothers afterpains , incontinence and involution of uterus. The patient is informed how to perform the exercises for 6 weeks of visual and auditory biofeedback assisted pelvic floor exercises to develop

the pelvic floor muscles and follow-up for one, 3, 6, month and 1 year visits with control for muscle evolution, motivation reinforcement and improvement of the symptoms. And the study is also supported by ***Willis E.(2000)***An experimental study was conducted to evaluate the effectiveness of prone position among postnatal mothers. Investigator provided prone position for 5 minutes in 30 minutes interval. The study results revealed that there is a significant reduction in pain on the day 1st and on the day 2nd after prone position when given for three times. The study concluded that practice of prone position was safe and effective method to alleviate afterpains without adverse effect on healing.

The third objective is to compare the effectiveness of Kegel exercise and prone position on afterpains and involution of uterus among postnatal mothers in experimental and control group.

The comparison between pre-assessment and post -assessment of fundal height of the uterus among post natal mothers (Experimental group) who are participating in this study , there is Statistically significant difference between **Day1** (χ2=38.57,P=0.001***)**, Day2** (χ2=20.93,P=0.001***)**, Day3**(χ2=9.32, P=0.001***) pretest and posttest level of fundal height. Statistical significance was calculated using chi square, the comparison between pre-assessment and post -assessment of fundal height of the uterus among post natal mothers (Control group) who are participating in this study , there is Statistically significant difference between **Day1,Day2, Day3** pretest and posttest level of fundal height. Statistical significance was calculated using chi square. Statistical significance difference between **Day1**(χ2=27.07P=0.001***) , **Day2**(χ2=34.81,P=0.001***)**, Day3**(χ2=33.04,P=0.001***) pre test and post test level of pain (Experimental group). Statistical significance was calculated using chi square.

Statistically significant difference between **Day1,Day2, Day3** pretest and posttest level of pain(Control group). Statistical significance was calculated using chi square.

The fourth objective is to find an association between pre-test level of afterpains and involution of uterus among postnatal mothers with their selected demographic variables.

The association between level of pain reduction score and mother's demographic variables in experimental group. There is a statistical significance between age of the mother and reduction of fundal height (χ2=9.72 p=0.01**) specifically in mothers between 26-30 years ,and also there is a marked reduction of fundal height among educated mothers (χ2=8.33 p=0.04*) who are graduates.

The association between level of pain reduction score and mothers demographic variables in experimental group. There is a statistical significance between pain reduction and mother's age between 26-30 yrs, (**χ2=7.79p=0.05*)** ,the mother's who attained menarche at the age between 12-15yrs were also having a marked reduction in pain (**χ2=6.43 p=0.04***) statistical value is calculated by using Chi square test.

CHAPTER-VI

SUMMARY AND CONCLUSION

SUMMARY

Most of the women experiences some degree of discomfort during the post natal period. Common causes of discomfort include pain from uterine contraction (afterpains) , perineal laceration, haemorrhoids, sore nipples, and breast engorgement.

Most of the women expect and experience afterpains after the labour process

Among this discomfort afterpain is a main discomfort. So this study is done to reduce the afterpains and enhancing the process of involution of uterus by administering the kegel exerciseand prone position for selected post natal mothers who admitted at the post natal ward at Institute of Obstetrics and Gynecology,Government hospital for Women and Children, Egmore Chennai 8.

Objectives of the study were

1 To assess the pre test score of afterpains and involution of uterus among post natal mothers before practicing kegel exercise and prone position.

2 To assess the post test score of kegel exercise and prone position on afterpains and involution of uterus among post natal mothers

3 To compare the effectiveness of kegel exercise and prone position on afterpains and involution of uterus between the experimental and control group among the post natal mothers.

4 To associate post test score of afterpains and involution of uterus among post natal mothers with selected demographic variables

The variables of the study were:

Independent variable : Administering kegel exercise and prone position.

Dependant variable: Afterpains and invplution of uterus.

Review of literature facilitated the investigator to collect the relevant information to support the study, to design the methodologoy and to develop the tools, drawing the conceptual frame work method and administration of kegel exercise and prone position.

The conceptual frame work for the study was based on general system theory by Ludwing &Bertalanffy(1968) and modified J. W. Kenny s open system model and it provided a comprehensive frame work for achieving the objectives of the study. The research design used in the study was pretest and post test design.

The study was conducted in post natal ward at the Institute of obstetrics and Gynecology Government hospital for women and children, Egmore. Chennai -8 .

The tool consists of demographic profile, obstetrical profile, numerical pain rating scale and clinical proforma. It was validated by medical nursing experts.

The pilot study was conducted after getting formal permission from The Institute of Obstetrics and Gynecology Government Hospital For Women and Children, Egmore, Chennai-8. The results revealed that the kegel exercise and prone position had significant effect in reducing the afterpains and improving the involution of uterus among the postnatal mothers. The reliability was established through interrater method. The obtain score was (0.82,0.88) and this was found to be highly reliable. The study was practically feasible to proceed with the main study.

The main study was conducted at the post natal ward , The Institute of Obstetrics and Gynecology and Government Hospital for Women and Childern , Egmore, Chennai -8. The sample consist of 30 experimental and 30 control group from day one post natal mothers. Non probability purposive sampling method was used for this study. The data collected was analyzed using descriptive and inferential statistics.

6-2 MAJOR FINDING OF THE STUDY

The study shows that among the study participants of post natal mothers according to their the Age of post natal mothers in experimental group11(36.7%) belonged to < 20 years age group while in control group 10 (33.3%) and also 10 (33.3%) in 21 – 25 years age in control group. With record to Religion majority belonged to Hindu 19 (63.3%) in experimental group and 16 (53.3%). Mostly post natal mothers are educated at the level of primary school in both the experimental 12 (40.0%) and 13 (43.3 %) in control group. Most of women's are house wife in experimental group 21 (70%) and also same 21 (70%) in control group. Monthly income of the majority of post natal mothers ranges from RS 2000 to 3000 experimental group 18(60.0%) and control group 14 (46.7%). Majority of the women come from joined family. In experimental 13 (43.3%) and control group 15 (50.0).

Most of the women came from urban experimental group 18 (60.0%) and control group14 (46.7%). Majority of the women close relative marriage in experimental group 18 (60.0%).In control group17 (56.7%) Most of the women are non relative marriage. Most of the women height 146 to 150 cm in both the experimental group 13 (43.3%) and control group 15 (50.0%) . Most of the women weight 50 to 55 kg in both group. In experimental group 13 (43.3%) And control group 16 (53.3%). Their diet pattern mostly were non vegetarian, in experimental group 26(86.7%) and control group 27 (90.0%).

Most of the women age at the menarche 12 to 15 years, in experimental group 22(73.3%) and control group 22 (73.3%).

When analyzing the association between level of pain reduction score and mother's demographic variables in experimental group. There is a statistical significance between age of the mother and reduction of fundal height ($\chi 2=9.72$ p=0.01**) specifically in mothers between 26-30 years ,and also there is a marked reduction of fundal height among educated mothers ($\chi 2=8.33$ p=0.04*) who are graduates.

6.3 NURSING IMPLICATION

According to Tolsma (1995) the selection of research report that focuses on implication usually includes specific suggestion for nursing practice , education, administration and research.

NURSING PRACTICE

Advanced nursing practice is one of the evolving trends in nursing practice, in which the hospital has a definite specified role for the nurse, a nurse specialist play a pivotal role in helping the patient to reduce discomfort and promote the comfort by providing quality care and preventing complications. Nurses have vital role in post natal care and management of afterpains and involution of uterus.

Nurse need to act as a source of knowledge and educate the post natal mothers on afterpains , involution of uterus and its management in post natal period. Nurses should have up to date knowledge on recent trends in diagnostic procedure and management of afterpains and involution of uterus in post natal period.

The present study helps the nurse to enable the post natal mothers to do the kegel exercise and prone position which helps to reduce the afterpains and improve the involution of uterus.

NURSING EDUCATION

Before, the nurses can utilize their practice, they need to have a strong foundation and knowledge through education from the inception of nursing as a nurse student till they graduate as professional nurses. They have to learn keeping with the changing trends

The purpose and steps of kegel exercise and prone position should be taught directly demonstrated at the bed side in clinical area and postnatal ward in all the nursing students. They should be given opportunities by assigning patients along with the supervision of senior ward nurses for providing nursing interventional care.

The nurse should have up to date knowledge regarding the treatment modalities for the symptoms in afterpains and involution of uterus in post natal period.

Nursing faculty members should impact the knowledge regarding about afterpains and involution of uterus in post natal period and its management to the student nurse.

NURSING ADMINISTRATION

Nursing administrator should conduct in service education program aimed at reduction of afterpains and improve the involution of uterus with non pharmacological methods.

1) Administrators should motivate the health personnel to demonstrate the kegel exercise and prone position through video or directly demonstrated to the postnatal mothers in order to reduce the afterpains and improving the involution of uterus.

2) Nursing administrators should arrange for periodic joint discussion about afterpains and involution of uterus in post natal period and its management among nurses and doctors.

3) Nursing administrators should provide the time, place and material for the nurse to educate the post natal mothers on self care of after pains and involution of uterus.

NURSING RESEARCH

1) More research studies in India are needed to identify the afterpains and involution of uterus to further complications among postnatal mothers.
2) The finding of the present study helps to prepare the study in different gravid group of post natal mothers.
3) The present stimulates recommend recognize, support, research on physical, medical, genetic, psychological and cultural aspects of afterpains ,involution of uterus and its transition in to practice.

RECOMMENDATION

The study recommends the following for further research

- A similar experimental design can be done with more samples and also a larger period of time.
- A study can be conducted to find out the knowledge of kegel exercise and prone position in reducing the afterpains.
- A comparative study can be done to compare the intervention of exercise with other home remedies.

CONCLUSION

Afterpains is a major problem remains in mothers after delivery problem in India. Since nurses have a key role in preventive, curative, rehabilitative aspects of healthcare. Nursing personnel should educate the mothers so that the quality of life will be improved. The intervention was found to be very effective in prevention of pains in mothers and fast involution of uterus..

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5) http://www. Messageonline.com

நேர்முக காணல்
பகுதி – 1

புள்ளி விவர ஆய்வு
வரிசை எண். 1

1) வயது (ஆண்டுகள்)
அ. 20 வயதுக்கும் கீழ் ஆ) 21-25 இ) 26-30 ஈ) 31 – 35

2) மதம்
அ. இந்து ஆ) கிறிஸ்துவர் இ) முஸ்லீம் ஈ) பிற

3) கல்வித்தகுதி
அ. இல்லை ஆ) 6-12 வகுப்பு இ) 1-5 வகுப்பு ஈ) பட்டம்

4) உத்தியோகம் (தொழில்)
அ. குடும்பத்தலைவி ஆ) கூலி இ) அலுவலக வேலை ஈ) பிற

5) குடும்ப வகை
அ. தனிக்குடும்பம் ஆ) கூட்டுக்குடும்பம் இ) இணைந்த குடும்பம்

6) மாத வருமானம்
அ. ரூ.3000 – 5000 ஆ) 5001-8000 இ) 8001 – 10,000 ஈ) 10001 க்கு மேல்

7) வாழும் இடம்
அ. கிராமம் ஆ) நகரம் இ) வளரும் நகரம்

8) எந்த விதமான திருமணம்
அ. உறவு முறை ஆ) அன்னிய முறை திருமணம்

9) உயரம்
அ. 140 – 145 செ.மீ. ஆ) 146 – 150 செ.மீ இ) 151 – 155 செ.மீ. ஈ) 156 – 160 செ.மீ.

10) எடை
அ. 50-55 கி.கி. ஆ) 56-60 கி.கி இ) 61-65 கி.கி. ஈ) 65 – 70 கி.கி

11) உணவு முறை
அ. சைவம் ஆ) அசைவம் இ) இரண்டும்

12) பூப்பெய்த வயது
அ. 12 வயதிற்கு கீழ் ஆ) 12- 15 இ) 16-19 ஈ) 20க்கு மேல்

பிரிவு – 2

தாயின் பிரசவ நிலையின் போது கவனித்தல் விவரம்

1) பிரசவத்தின் முதல் நிலை

அ) 6-12 மணி நேரம் ஆ) 13 – 24 மணி நேரம் இ) 24 மணி நேரம்

2) எபிஸ்சியாட்டமி

அ) ஆம் ஆ) இல்லை

3) நஞ்சுக் கொடி பிரிந்து வெளியேறும் நேரம்

அ) 10-15 நிமிடத்திற்கு ஆ) 16 – 30 நிமிடத்திற்கு இ) 30-45 நிமிடத்திற்கு

4) பிரசவத்திற்கு பின் உடற்பயிற்சியை எப்போது தொடங்கலாம்

அ) பிரசவத்திற்கு பின் உடனடியாக ஆ) பிரசவத்தின் முதல் நாள்

இ) பிரசவத்தின் மூன்றாம் நாள்

5) பிரசவித்தபின் எவ்வளவு காலம் உடற்பயிற்சி செய்ய வேண்டும்

அ) 1-2 மாதங்கள் ஆ) 2-3 மாதங்கள் இ) 6 மாதங்கள்

6) பிரசவத்திற்கு பின் உடற்பயிற்சி செய்வதால் ஏற்படும் நன்மைகள்

அ) இரத்த ஓட்டத்தை அதிகரித்தல் ஆ) வயிறு தசைகள் வலுவடைதல்

இ) குழந்தை இடைவெளி

7) பிரசவத்திற்கு பின் முதல் 3 நாட்களுக்கு வரும் தீட்டின் நிறம்

அ) மஞ்சள் ஆ) சிகப்பு இ) வெள்ளை

8) தினமும் எத்தனை நாப்கின்கள் மாற்றுவீர்கள்

அ) நான்கு ஆ) ஐந்து இ) ஆறு ஈ) ஆறுக்கும் மேல்

9) எத்தனையாவது பிரசவம்

அ) முதல் ஆ) இரண்டாவது இ) இரண்டிற்கும் மேல்

10) எத்தனையாவது கர்ப்பம்

அ) முதல் ஆ) இரண்டாவது இ) இரண்டிற்கும் மேல்

11) உயிரோடுள்ள குழந்தையின் எண்ணிக்கை

அ) ஒன்று ஆ) இரண்டு இ) இரண்டிற்கும் மேல்

TOOLS

INTERIVEW / OBSERVATION SCHEDULE

PART-I

DEMOGRAPHIC VARIABLES SAMPLE NO:

1) The age of the mother

a) >20 years b) 21-25 years c) 26-30 Years d) 31-35 Years

2) Religion

a) Hindu b) Christian
c) Muslim d) others

3) Educational status

a) Non formal education b) Primary
c) Secondary d) Graduate and above

4) Occupation

a) Housewife b) cooley c) company d) others

5) Type of family

a) Joint Family b) Nuclear Family c) Extended Family

6) Income

a) Less than Rs.2,000 b) Rs. 2,000-3,000 c) Rs. 3,000-4,000
d)More thanRs.4,000

7) Place of Living

a) Rural b) Urban c) Suburban

8) Type of marriage

a) Relative b) non Relative

9) Height

a) 140-145 cm b)146-150 cm c)151-155 cm
d) more than 156 cm

10) Weight

a)50-55 kg b)56-65 kg c) 65-70 kg d) more than 70

11) Food Habits

a) vegetarian b) non vegetarian c) both

12) Attained Menarche at the age

a) Less than 12 b)12-15 c) 16-19 d)< 20

OBSTETRICAL VARIABLES

1.Time of first stage of labour

a) 6-12 hrs b)13-14 hrs c)24 hrs

2. Episiotomy

a) Yes b) No

3.Duration of expultion of placenta

a) 10-15 mins b)16-30 mins c)30-45 mins

4. postnatal exercise has to be started

a) Immediately after delivery b)first day of delivery
c) third day of delivery

5.how long the postnatal exercise can be done

a)1-2months b) 2-3 months c) 6months

6.Uses of postnatal exercise

a)To increase sleep b) To provide comfort
c) strengthening of the abdominal muscles

7) colour of the lochia after delivery upto three days

a) Red b) yellow c) white

8)how many pad changed every day

a) four b) five c) six d) more than six

9) Gravida

a) first baby b) second baby c) more than two

10) Para

a) first b) second c) more than two

11) number of living child

a) one b) two c) more than two

SECTION-B

Observation schedule on Measurement of Fundal height postnatal mothers on Involution of uterus

Instruction:-

The observer measures the Fundal height of postnatal mothers and fill the appropriate space.

S.No	Patient	Time	Pretest	Post test		
				D1	D2	D3
				cm	cm	cm

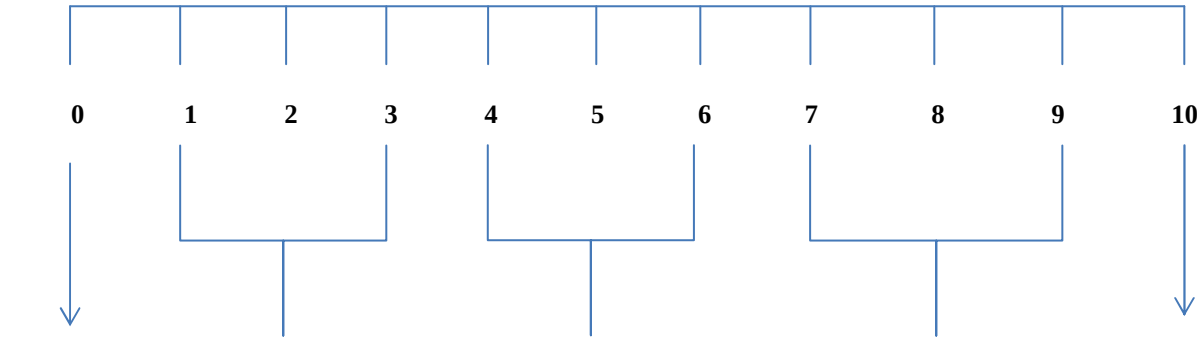
Scoring:

<11cm = Good involution

12-13 = Fair involution

13-14 = Slow involution

MODIFIED COMBINED CATEGORICAL NUMERICAL PAIN SCALE



CERTIFICATE OF TOOL VALIDATION

This is to certify that the tool constructed by Ms.Kurusamy Appammal, M.Sc., Nursing II year, College of Nursing, Madras Medical College which is to be used in her study titled **"A Study to assess the effectiveness of kegel exercise vs prone position on afterpains and involution of uterus among postnatal mothers at Institute of Obstetrics and Gynaecology, Egmore."** has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then she can proceed to do the research.

SIGNATURE WITH SEAL

ASSISTANT SURGEON
IOG & Govt. Hospital For
Women & Children
Egmore, Chennai-600 008.

NAME :

DESIGNATION:

INSTITUTION :

PLACE :

DATE :

CERTIFICATE OF TOOL VALIDATION

This is to certify that the tool constructed by Ms.Kurusamy Appammal, M.Sc., Nursing II year, College of Nursing, Madras Medical College which is to be used in her study titled **"A Study to assess the effectiveness of kegel exercise vs prone position on afterpains and involution of uterus among postnatal mothers at Institute of Obstetrics and Gynaecology, Egmore."** has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then she can proceed to do the research.

16/8/13

SIGNATURE WITH SEAL

MADHA COLLEGE OF NURSING
16 AUG 2013
CHENNAI - 600 069

NAME : KANAGAVALLI.P

DESIGNATION : READER

COLLEGE : MADHA COLLEGE OF NURSING

PLACE : KUNRATHUR, CHENNAI-69

DATE : 16/08/2013

INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE, CHENNAI -3

EC RegNo.ECR/270/Inst./TN/2013
Telephone No : 044 25305301
Fax : 044 25363970

CERTIFICATE OF APPROVAL

To
K.Appammal,
M.Sc.,(N) II year,
College of Nursing,
Madras Medical College, Chennai-3.

Dear K.Appammal

The Institutional Ethics committee of Madras Medical College, reviewed and discussed your application for approval of the proposal entitled "A study to assess the effectiveness of kegel exercise vs prone position on after pains and involution of uterus among postnatal mothers at Institute of Obstetrics and Gynaecology, Egmore" No.18072013.

The following members of Ethics Committee were present in the meeting held on 06.07.2013 conducted at Madras Medical College, Chennai -3.

1. Dr.G.SivaKumar, MS FICS FAIS --- Chairperson
2. Prof. R. Nandhini MD -- Member Secretary
   Director, Instt. of Pharmacology ,MMC, Ch-3
3. Prof. Shyamraj MD -- Member
   Director i/c , Instt. of Biochemistry , MMC, Ch-3
4. Prof. P. Karkuzhali. MD -- Member
   Prof., Instt. of Pathology, MMC, Ch-3
5. Prof. Kalai Selvi -- Member
   Prof of Pharmacology, MMC, Ch-3
6. Prof. Siva Subramanian, -- Member
   Director, Instt. of Internal Medicine, MMC, Ch-3
7. Thiru. S. Govindsamy. BABL -- Lawyer
8. Tmt. Arnold Saulina MA MSW -- Social Scientist

We approve the proposal to be conducted in its presented form.

Sd/ Chairman & Other Members

The Institutional Ethics Committee expects to be informed about the progress of the study, and SAE occurring in the course of the study, any changes in the protocol and patients information / informed consent and asks to be provided a copy of the final report.

R Nandini
Member Secretary, Ethics Committee

Reg. No: 259/CON/mmc/ dated 11.7.13.

From

Mrs. K. Appammal,
M.Sc(Nursing) II year student,
College of Nursing,
Madras Medical College,
Chennai-03.

17/7/13

To

Permitted after ethical clearance

The Director & Superintendent,
Institute of Obstetrics and Gynaecology,
Egmore,
Chennai-08.

Through the proper channel
Respected Madam,

Sub : Requesting permission to conduct a research study - reg.

I, Mrs.K.Appammal, studying M.Sc(Nursing) II Year in College of Nursing, Madras Medical College, Chennai-03, kindly request you to grant me permission for the study proposed to conduct on the topic titled **" A study to assess the effectiveness of kegel exercise vs prone position on afterpains and involution of uterus among postnatal mothers at Institute of Obstetrics and Gynaecology, Chennai-08",** to fulfill the requirement of data collection. I assure you that it will not interfere with the routine activities of the study settings.

Forwarded
11/07/13

Thanking you,

Place: Chennai
Date: 11/07/13

Yours obediently,
K. Appamma
(K.Appammal)